

**SAFETY DATA SHEET****1. IDENTIFICATION**

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|--|--|
| Product identifier | : Fuel Oil |
| Other means of identification | : Marine Diesel Fuel (MDF), Marine Diesel Oil (MDO), Industrial Diesel Oil (IDO), Automotive Diesel Oil (ADO), Diesel 1 |
| Recommended use of the chemical and restrictions on use | : Used for middle and low rotation diesel engine |
| Manufacturer | : PT Pertamina (Persero) Jl. Medan Merdeka Timur 1A Jakarta Pusat ZIP Code 10110 Phone:1500-000 Email: pcc@pertamina.com |
| Emergency phone number | : 1500-000 |

2. HAZARD IDENTIFICATION

| | |
|--------------------------------|--|
| Classification | : Flammable liquid, category 4 Skin corrosion/irritation, category 2 Aspiration hazards, category 1 Hazardous to the aquatic environment (chronic), category 2 |
| Signal word | : Warning |
| Hazard statement | : <u>Physical Hazard</u> H227 – Combustible liquid <u>Health Hazard</u> H304 – May be fatal if swallowed and enters airways H315 – Causes skin irritation H336 – May cause drowsiness or dizziness <u>Environmental Hazard</u> H411 – Toxic to aquatic life with long lasting effects |
| Precautionary statement | : <u>Prevention</u> P103 – Read label before use P280 –Wear protective gloves/protective clothing/eye protection/face protection. <u>Response</u> P301 + P310 –IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. P302 + P352 –IF ON SKIN: Wash with plenty of soap and water. P304 + P340 –IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. P308 + P313 –IF exposed or concerned: Get medical advice/attention. P331 –Do NOT induce vomiting. <u>Storage</u> P403 + P233 + P235 –Store in a well-ventilated place. |

**SAFETY DATA SHEET****2. HAZARD IDENTIFICATION**

Keep container tightly closed. Keep cool.

Disposal

P501 -Dispose of contents/container in accordance with national regulations.

Pictogram

:



Other hazards which do not result in classification

:

Irritation to the respiratory tract, dizziness, nausea, and unconsciousness. Repeated contact with the skin for a long time can cause skin irritation or more serious skin defects.

3. COMPOSITION/INFORMATION ON INGREDIENTS

| Chemical Name | CAS No. | Concentration (%) |
|---------------|------------|-------------------|
| Hydrocarbon | 68334-30-5 | 100 |

4. FIRST AID MEASURES

Necessary description

- **In case of eye contact** : Flush eyes with plenty of water. Remove contact lenses. If irritation persists, refer to a doctor/physician.
- **In case of skin contact** : Wash the contaminated skin with water and soap. Dry it using dry and clean piece of cloth. Remove contaminated clothes and wash before reuse.
- **If inhaled** : Keep the victims away from further exposure with this product. At the occurrence of irritation to respiratory tract, dizziness, nausea and unconsciousness, seek medical help or doctors. When breathing stops do resuscitation from mouth to mouth.
- **If swallowed** : It is an aspiration hazard that may enter lungs and cause any impairment. If victim ingests more than 0.5 liter, give 1-2 glass of water immediately. Do not give anything through mouth that can induce nausea or vomiting and to unconscious personnel. Refer to doctor for medical treatment.

Most important

symptoms/effects

: Repeated skin contact in long time may cause respiratory irritation, headache, nausea, and unconsciousness.

Indication of Immediate

medical attention and

special treatment needed, if necessary

: Swallowed material may be absorbed into the lungs and cause chemical pneumonitis that needs proper treatment.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media : Carbon dioxide (CO₂), dry chemical powder and foam

Unsuitable extinguishing : -



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5. FIRE-FIGHTING MEASURES

media

Specific hazards

- **Other explosion and fire hazards** : Fire and explosion hazards may occur in unprotected storage tank near fire location.

Flash point°C : 60°C

Flammability value : LEL 0.6%, UEL 7%

Hazardous chemical composition : Carbon monoxide (CO), Carbon dioxide (CO₂), Sulphur oxide

Special protective actions for fire fighters

a. **Carbon dioxide (CO₂)** : Spray to the origin of fire in the same direction with the wind.

b. **Dry chemical powder** : Spray to the origin of fire in the same direction with the wind.

c. **Foam** : If the fire is in a container, spray the foam to inner wall of the container (not to the ignited liquid) in the same direction with the wind. If the fire occurs because spill, spray to the origin of fire in the same direction with wind until all the fire covered. Do not dispose the spill to the clean water source (drinking water).

Special protective equipment for fire-fighter : If fire occurs in limited/indoor/closed area, fire fighter operator must wear Self-Contained Breathing Apparatus(SCBA).

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment, and emergency procedures : Keep away from fire source. Avoid direct contact with skin, eye, and clothes. Evacuate personnel to the safe place. Beware of vapor which accumulates to form explosive concentration. Vapor can accumulate in low areas. Use personal protective equipment. Ensure adequate ventilation. Material may cause slippery.

Environmental precautions : Prevent oil spill goes into water ditches, disposal channels, and seepage into soil.

Procedures : Report spill according to the valid system and procedures. If spill can go into drainage or streams, do immediate report to the authority.

Methods and materials for containment and cleaning up : Eliminate all possible ignition condition. Do oil spill absorption using sorbent, sawdust, vermiculate, and other fire retardant material. Clean and dispose cleaned material in the right waste disposal according to valid regulations.

7. HANDLING AND STORAGE

Precautions for safe handling : When absorbed by skin, it will cause serious effect. Avoid



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7. HANDLING AND STORAGE

the vapor or mist from being inhaled. Check the H₂S content. Keep the tank clean. Portable containers for storage must be placed on the ground and the nozzle must be attached to the container during filling to prevent static electricity.

Conditions for safe storage (including any incompatibility) : Store in a cool place. Flammable atmosphere can be formed on top of the storage tank, although it is stored below flash point. Keep away from combustible and flammable materials. Ensure that container is well closed before material used. Opened container and rest of the material should be closed and placed in stand position to avoid any leakage/spill. Ensure that container has been labeled rightly.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

- **Exposure limit** : TWA 200 mg/m³ (as total of hydrocarbon vapor)
Skin
- **Biological exposure indicator** : Not available

Appropriate engineering control

- **Ventilation** : If product is used in a relatively closed room, a local ventilation must be provided. Ventilation and the equipment used must be explosion proof.

Individual protection measures

- **Eye and face protection** : Wear eye protection (*chemical type goggles*).
- **Skin protection** : Wear protective gloves (leather or PVC).
- **Respiratory protection** : Wear respiratory protection when the pollution concentration in the air is higher than the permissible TLV.
- **Hygiene practice** : Apply good personal hygiene.
Wash hand during break and after handling.
Do not eat, and drink, while using this product.
Do not smoke while using this product.

9. PHYSICAL AND CHEMICAL PROPERTIES AND SAFETY CHARACTERISTICS

| Characteristic | Test Result |
|--|-----------------------------|
| Organoleptic (physical appearance, color, etc) | : Liquid, clear, and bright |
| Odor | : Hydrocarbon |
| Odor threshold | : No data available |
| pH | : No data available |

**SAFETY DATA SHEET****9. PHYSICAL AND CHEMICAL PROPERTIES AND SAFETY CHARACTERISTICS**

| Characteristic | Test Result |
|--|---|
| Melting/freezing point | : Cannot be applied |
| Boiling point/boiling range | : 150-600°C |
| Flammability | : Flammable liquid |
| Flash point | : 60°C |
| Evaporation rate | : No data available |
| Lower/upper flammability limit and explosion limit | : LEL 0.6%; UEL 7.0% |
| Vapor pressure | : No data available |
| Vapor density | : 900 kg/m ³ |
| Relative density | : No data available |
| Solubility | |
| • Water solubility | : Not soluble |
| • Other solubility | : No data available |
| Partition coefficient (n-octanol/water) | : No data available |
| Auto-ignition temperature | : No data available |
| Decomposition temperature | : No data available |
| Viscosity | : 2.5 - 11 mm ² /sec (at 40°C) |

10. STABILITY AND REACTIVITY

| | |
|------------------------------------|---|
| Reactivity | : Hazardous substances polymerisation does not occur. |
| Chemical stability | : Stable. |
| Possibility of hazardous reactions | : No hazardous reaction in normal condition. |
| Conditions to avoid | : Heat, fire sparks, flame, or condition that induce electrostatic. |
| Incompatible materials | : Halogen, strong acid, strong base and strong oxidizer. |
| Hazardous decomposition products | : Carbon monoxide (CO). |

11. TOXICOLOGICAL INFORMATION**Comprehensive toxicological/health information**

- **Acute toxicity** : Vapor or mist may not cause acute respiratory irritation
- **Skin corrosion/irritation** : No data available. Suspected that it may cause mild irritation according to compound or product which has similar structure or composition.
- **Serious eye damage/irritation** : No data available. Suspected that it may not cause serious damage but cause mild irritation according to compound or product which has similar structure or composition.
- **Respiratory or skin sensitization** : No data available. Suspected that it may not cause respiratory/skin sensitization according to compound or product which has similar structure or composition.
- **Germ cell mutagenicity** : No data available. Suspected that it is not mutagen according to compound or product which has similar structure or composition.



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11. TOXICOLOGICAL INFORMATION

- **Carcinogenicity** : No data available. Suspected that it is not carcinogen according to compound or product which has similar structure or composition.
 - **Reproductive toxicity** : No data available. Suspected that it is not reproductive toxicant according to compound or product which has similar structure or composition.
 - **STOT-single exposure** : No data available. Suspected that it may cause narcotic effect according to compound or product which has similar structure or composition.
 - **STOT-repeated exposure** : No data available. Suspected that it is not toxic to specific organ after repeated exposure according to compound or product which has similar structure or composition.
 - **Aspiration hazards** : No data available but this product may cause death if swallowed or enters the airway according to compound or product which has similar structure or composition.
- Information on the likely routes exposure** : Inhaled, swallowed, skin contact, and eye contact.
- Symptoms related to the physical, chemical, and toxicological characteristics** : Skin irritation signs and symptoms may include a burning sensation, skin rash, or swelling. Eye irritation signs and symptoms may include a burning sensation and a temporary eye irritation. If material enters lungs, signs and symptoms may include coughing, choking, wheezing, difficulty in breathing, chest congestion, short breath, and/or fever, the onset of respiratory symptoms may be delayed for several hours after exposure.
- Delayed and immediate effects, and also chronic effects from both short or long term exposure** : No data available. Further testing has not been done.
- Numerical measure of toxicity** : No data available. Further testing has not been done.
- Interactive effects** : No data available. Further testing has not been done.
- Where specific chemical data are not available** : No data available. Further testing has not been done.
- Mixture** : No data available. Further testing has not been done.
- Mixture vs. Ingredient information** : No data available. Further testing has not been done.
- Other information** : Will not affect human in good hygiene condition.

12. ECOLOGICAL INFORMATION

- Ecotoxicity** : Soil seepage may cause soil water contamination or aquifer.
- Persistence and degradability** : No data available. Further testing has not been done.
- Bioaccumulation potential** : No data available. Detailed toxic effects is related to concentration nominal value. Further testing has not



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12. ECOLOGICAL INFORMATION

been done.
Mobility in soil : Soil seepage may cause aquifer pollution.
Other adverse effects : No data available. Further testing has not been done.

13. DISPOSAL CONSIDERATION

Disposal methods : This product may be burned in closed place to gain energy, or burned in incinerator. This product can also be recycled in the recycling place determined by the government.

**Law information: this product sludge waste is classified as hazardous waste (except it is not proven after TCLP (Toxicity Characteristic Leaching Procedure) testing), so that the disposal must follow valid provision.*

14. TRANSPORT INFORMATION

USA DOT

UN Number : UN 1202
UN proper shipping name : Diesel fuel
Transport hazard class(es) : 3
Packing group (if available) : PG III
Environmental hazard : -
Special precautions for user (UN Model Regulation) : -

RID / ADR

UN Number : UN 1202
UN proper shipping name : Diesel fuel
Transport hazard class(es) : 3
Packing group (if available) : PG III
Environmental hazard : -
Special precautions for user : -

IMO

UN Number : UN 1202
UN proper shipping name : Diesel fuel
Transport hazard class(es) : 3.3
Packing group (if available) : PG III
Environmental hazard : Marine contamination – Hazardous for environment
Special precautions for user : If product is transported in large quantity using tanker ship in international water, it will be transported under International Convention for the Prevention of Pollution from Ships (MARPOL) Annex I.

ICAO / IATA

UN Number : UN 1202
UN proper shipping name : Diesel fuel
Transport hazard class(es) : 3



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14. TRANSPORT INFORMATION

Packing group (if available) : PG III
Environmental hazard : -
Special precautions for user : -

15. REGULATORY INFORMATION

Safety, health, and environmental regulation (specific for the product in question) : - Peraturan Menteri Perindustrian Nomor 23/M-IND/PER/4/2013 tentang Perubahan Atas Peraturan Menteri Perindustrian Nomor 87/M-IND/PER/9/2009 Tentang Sistem Harmonisasi Global Klasifikasi dan Label pada Bahan Kimia
- Basis Industri Manufaktur No. 04/BIM/PER/I/2014 tentang Petunjuk Teknis dan Petunjuk Pengawasan Pelaksanaan Sistem Harmonisasi Global Klasifikasi dan Label Pada Bahan Kimia
- Peraturan Pemerintah Republik Indonesia Nomor 74 Tahun 2001 Tentang Pengelolaan Bahan Berbahaya dan Beracun
- Keputusan Menteri Tenaga Kerja No Kep-187/Men/1999 tentang Pengendalian Bahan Kimia Berbahaya
- Peraturan Menteri Kesehatan Republik Indonesia Nomor 70 Tahun 2016 tentang Standar dan Persyaratan Kesehatan Lingkungan Kerja Industri
- ACGIH. 2016. TLVs and BEIs.
- Terdaftar pada TSCA EINECS/ELINCS dan AICS
- OSHA 29 CFR 1910.1200

16. OTHER INFORMATION

Composing date :
Revision date : March 2017
Key/legend or acronym used in the SDS : ADR – European Agreement concerning the International Carriage of Dangerous Goods by Road
ASTM – American Society for Testing and Materials
CEC – The Coordinating European Council
IATA – The International Air Transport Association
ICAO – The International Civil Aviation Organization
IMO – The International Maritime Organization
NAB – Nilai Ambang Batas
PG – Packaging Group
RID – Regulation concerning the International Carriage of Dangerous Goods by Rail
UN – United Nations
USA DOT – United States Department of Transportation
Key literature references and sources for data used in the : The data above is cited from but not limited to information sources like DOT ERG No.128, OSHA 29 CFR



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16. OTHER INFORMATION

SDS

1910.1200

Disclaimer

The information is composed based on current knowledge and intended to describe safety, health, and environment hazard of the product. Therefore, it should not be construed as guarantee any specific property of the product. All risks while using this product is the user's responsibility. It is not allowed to make change of this document, except there is legal consent.