

SAFETY DATA SHEET

Diesel Fuel Oil (DFO)



1. Identification of Substance or Mixture and of the Supplier

Product Name : Diesel Fuel Oil
Other Names : Light Diesel Oil
Recommended Use : Diesel fuels are distillate fuels suitable for use in high and medium speed internal combustion engines of the compression ignition type.
 This product is intended for use in closed systems only
Suppliers Details : **Attock Refinery Limited**
 P.O. Refinery, Morgah, Rawalpindi, Pakistan
 Telephone/Fax Number
 Tel: +92-51-5487041
 Fax: +91-51-5487041
Emergency Phone Number : +92-51-5487041

2. Hazard Identification

GHS Classification : **Flammable Liquids, Category 3**
Aspiration Hazard, Category 1
Acute toxicity, inhalation: Category 4
Eye Damage/Irritation, Category 2
Skin Corrosion/Irritation, Category 2
Hazardous to Aquatic Environment- Long-term -Hazard, Category 3

GHS Label Elements & Precautionary Statements



Signal Word
 Danger

Hazard Statement (s)
H226 Flammable liquid and vapor
H300 + H330 Fatal if swallowed or if inhaled
H315 Causes skin irritation
H319 Causes eye irritation
H335 May cause respiratory irritation
H336 May cause drowsiness or dizziness

- H340** May cause genetic defects
- H351** Suspected of causing cancer
- H412** Harmful to aquatic life with long lasting effects

Precautionary Statement (s) – Prevention

- P201** Obtain special instructions before use
- P202** Do not handle until all safety precautions have been read and understood
- P210** Keep away from source of ignition, hot surface and open flames.
No smoking
- P264** Wash contaminated skin thoroughly after handling.
- P273** Avoid release to the environment
- P280** Wear protective gloves/protective clothing/eye protection/face protection.
- P281** Use personal protective equipment as required

Precautionary Statement (s) – Response

- P301+P310** IF SWALLOWED: Immediately call doctor/ physician.
- P302+P352** IF ON SKIN: Wash with plenty of soap and water
- P304+340** 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
- P362** Take off contaminated clothing and wash before reuse
- P370+P378** In case of fire: Use foam, water spray or fog. Dry chemical powder, carbon dioxide, sand or earth may be used for small fires only for extinction.
- P391** Collect spillage

Precautionary Statement (s) – Storage

- P403+P235** Store in a well-ventilated place. Keep cool.
- P405** Store locked up

Precautionary Statement (s) - Disposal

- P501** Dispose of contents/container to an approved waste disposal plant

3. Composition / Information on Ingredients

Chemical Identity : A complex combination of hydrocarbons with carbon numbers in the range C12 and higher produced from the distillation of petroleum crude

Composition Information

Name	CAS Number	Percent (%)
Diesel Fuel Oil	68476-30-2	≈100
Sulphur	7704-34-9	0.5 ~ 0.8

4. First-Aid Measures

Inhalation	: If inhaled, remove person to fresh air. If person is not breathing, provide artificial respiration. If necessary, provide additional oxygen once breathing is restored if trained to do so. Seek medical attention immediately.
Ingestion	: Do not induce vomiting. Do not give liquids. Seek medical attention.
Skin	: Remove contaminated clothing. Wash contaminated areas thoroughly with soap and water. Obtain medical attention
Eye Contact	: If in eyes, immediately flush with clean and low pressure water for at least 15-minutes. Hold eyelids open to ensure adequate flushing. Seek medical attention.

5. Fire Fighting Measures

Hazchem Code	: Not applicable
Suitable Extinguishing Media	: Foam, water spray or fog. Dry chemical powder, carbon dioxide, sand or earth may be used for small fires only.
Unsuitable Extinguishing Media	: Do not use water in a jet.
Hazards from Combustion Products	: Under fire conditions this product may emit toxic and/or irritating fumes, smoke and gases including carbon monoxide, carbon dioxide, oxides of sulphur and oxides of nitrogen.
Specific Hazards during Fire Fighting	: This product will burn if exposed to fire
Decomposition Temperature	: Not Available
Precautions in connection with Fire	: Special protective equipment for firefighters. In case of fire: Wear self-contained breathing apparatus. Use water spray or fog for cooling exposed containers. Evacuate personnel to a safe area. Collect contaminated fire extinguishing water separately. This must not be discharged into drains.

6. Accidental Release Measures

Personal Precautions, Protective Equipment and Emergency Procedures : Use personal protective equipment. Extinguish or remove all sources of ignition and stop leak if safe to do so. Increase ventilation. Evacuate personnel to safe areas.

Environmental Precautions : Avoid release to the environment. Avoid subsoil penetration.

Methods and Materials for Containment and Cleaning up : If possible contain the spill. Contain liquid with sand or soil. Prevent spilled material from entering drains, sewers, and open waterways. Use clean non-sparking tools to collect the material and place into suitable labelled containers for subsequent recycling or disposal. Dispose of waste according to the applicable local and national regulation

7. Handling & Storage

Safe Handling : Handle as a combustible liquid. Keep away from heat, sparks, excessive temperatures and open flame! No smoking or open flame in storage, use or handling areas. Bond and ground containers during product transfer to reduce the possibility of static-initiated fire or explosion. Avoid inhalation of vapors and mists and skin or eye contact. Do not handle until all safety precautions have been read and understood.

Safe Storage Conditions : Avoid inhalation of vapours and mists, and skin or eye contact. Use only in a well ventilated area. Keep containers sealed when not in use. Prevent the build up of mists or vapours in the work atmosphere. Do not use near ignition sources. Do not pressurise, cut, heat or weld containers as they may contain hazardous residues. Maintain high standards of personal hygiene by washing hands prior to eating, drinking, smoking or using toilet facilities. Avoid exposure. Do not handle until all safety precautions have been read and understood.
When using do not eat or drink. Extinguish any naked flames. Do not smoke. Remove ignition sources. Avoid sparks. When handling product in drums, safety footwear should be worn and proper handling equipment should be used

Recommended Material : For containers, or container linings use mild steel, stainless steel. Aluminium may also be used for applications where it does not present an unnecessary fire hazard. Examples of suitable materials are: high density polyethylene (HDPE) and Viton (FKM), which have been specifically tested for compatibility with this product. For seals and gaskets use: graphite, PTFE, Viton A, Viton B.

Unsuitable Materials : Some synthetic materials may be unsuitable for containers or container linings depending on the material specification and intended use. Examples of materials to avoid are: natural rubber (NR), nitrile rubber (NBR), ethylene propylene rubber (EPDM), polymethyl methacrylate (PMMA), polystyrene,

polyvinyl chloride (PVC), polyisobutylene. However, some may be suitable for glove materials.

8. Exposure Control / Personnel Protection

Occupational Exposure Limit Values

Component	CAS No	Value Type (Form of Exposure)	Control Parameters / Permissible Concentration	Basis
Diesel Fuel Oil	68476-30-2	TWA	100 mg/m ³	ACGIH

TWA (Time Weighted Average): The average airborne concentration of a particular substance when calculated over a normal eight-hour working day, for a five-day week.

Biological Limit Values

: No biological limit available

Appropriate Engineering Controls

: This substance is hazardous and should be used with a local exhaust ventilation system, drawing vapours away from workers' breathing zone. A flame-proof exhaust ventilation system is required. If the engineering controls are not sufficient to maintain concentrations of vapors/mists below the exposure standards, suitable respiratory protection must be worn.

Respiratory Protection

: If engineering controls are not effective in controlling airborne exposure then an approved respirator with a replaceable vapor/ mist filter should be used. Refer to relevant regulations for further information concerning respiratory protective requirements

Eye Protection

: Safety glasses with side shields, chemical goggles or full-face shield as appropriate should be used. Final choice of appropriate eye/face protection will vary according to individual circumstances.
Eye protection devices should conform to relevant regulations

Hand Protection

: Wear gloves of impervious material such as nitrile gloves (Breakthrough time of > 240 minutes) neoprene, PVC gloves. Final choice of appropriate gloves will vary according to individual circumstances i.e. methods of handling or according to risk assessments undertaken.
Occupational protective gloves should conform to relevant regulations.

Body Protection

: Suitable protective work wear, e.g. Cotton overall/ dungies.

9. Physical & Chemical Properties

Physical State	: Liquid
Odour	: Petroleum
Color	: Brown Black
Pour Point °C	: ≤12
Boiling Point Range	: 145 – 390 °C
Specific Gravity @ 15.6°C/ 15.6°C:	: 0.870 – 0.890
Kinematic Viscosity at 50°, cSt	: ≤12
Flash °C	: >54

10. Stability & Reactivity

Chemical Stability	: Stable under normal conditions of storage and handling
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	: Hazardous decomposition products are not expected to form during normal storage. Thermal decomposition is highly dependent on conditions. A complex mixture of airborne solids, liquids and gases including carbon monoxide, carbon dioxide, sulphur oxides and unidentified organic compounds will be evolved when this material undergoes combustion or thermal or oxidative degradation.

11. Toxicological Information

Toxicology Information	: Acute Toxicity – Oral LD50 :(Rat) : >2000 mg/kg
	: Acute Toxicity – Inhalation LD50 :(Rat) : >5 mg/l / 4h
	: Acute Toxicity – Dermal LD50 :(Rat) : >2000 mg/kg

Ingestion	: Swallowing can result in nausea, vomiting and irritation of the gastrointestinal tract.
Inhalation	: Inhalation of product vapors may cause irritation of the nose, throat and respiratory system.
Skin	: Repeated exposure may cause skin dryness and cracking and may lead to dermatitis.
Eye	: May be an eye irritant
Respiratory Sensitization	: Not expected to be a respiratory sensitizer
Skin Sensitization	: Not expected to be a skin sensitizer
Germ cell Mutagenicity	: Not considered to be a mutagenic hazard
Carcinogenicity	: Suspected to cause cancer
Reproductive Toxicity	: Not considered to be toxic to reproduction
Aspiration Respiratory Organs Hazard	: May be fatal if swallowed or vomited and enters airways. May cause irritation of the mouth, throat and gastrointestinal tract.

12. Ecological Information

Toxicity	: Very toxic to aquatic life with long lasting effects. Keep out of sewers, drainage areas and waterways. Report spills and releases, as applicable, under Federal and State regulations.
Acute Toxicity	: Ecotoxic effects: Quantitative data on the ecological effect of this product are not available. Further ecologic data: Do not allow to enter waters, waste water, or soil!
Biodegradability Persistence/ Degradability	: This product is not expected to bioaccumulate through food chains in the environment.
Mobility	: Spillages may penetrate the soil causing ground water contamination. This material may accumulate in sediments.
Bioaccumulative Potential	: Has the potential to bioaccumulative

13. Disposal Considerations

Dispose of waste according to applicable local and national regulations. Labels should not be removed from containers until they have been cleaned. Do not allow into drains or watercourses or dispose of where ground or surface waters may be affected.

14. Transport Information

Hazard Class

3

U.N. Number

1202

Packaging Group

III

15. Regulatory Information

Classified as Hazardous according to the Globally Harmonised System of classification and labelling of chemicals (GHS) including Work, Health and Safety regulations.

16. Other Information including Information on Preparation and revision of the SDS

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.