

Heavy Fuel Oil (HFO)

Product Description

Heavy Fuel Oil (HFO) is a residual fuel derived from crude oil refining, primarily used in industrial boilers, marine engines, and power generation. It is a viscous, dark liquid hydrocarbon blend that requires preheating for efficient atomization and combustion. HFO provides high energy density and cost-effective performance for large-scale operations.

Composition

HFO consists mainly of:

- Long-chain hydrocarbons (C20–C50)
- Aromatic and aliphatic compounds
- Trace metals and sulfur compounds

These components contribute to its high calorific value and characteristic viscosity.

Technical Specifications

Property	Unit	Guarantee	Limit	Test Method
Viscosity @ 50C	cSt	100-500	max	ISO 3104 / ASTM D7042 / ASTM D445
Density @ 15C	kg/m3	991	max	ISO 3675 / ASTM D4052
CCAI	-	870	max	ISO 8217
Sulphur	% mass	2	max	ISO 8754 / ASTM D4294
Flash Point	C	60	min	ISO 2719 / ASTM D93
Hydrogen Sulfide	mg/kg	2	max	IP 570
Acid Number	mg KOH/g	2.5	max	ASTM D664
Total Sediment (Aged)	% mass	0.1	max	ISO 10307-2 / ASTM D473
Carbon Residue (Micro)	% mass	18	max	ISO 10370 / ASTM D4530
Asphaltenes	% mass	10	max	ASTM D6560 / ASTM D3279
Pour Point	C	30	max	ISO 3016 / ASTM D97
Water	% vol	0.5	max	ISO 6245 / ASTM D482
Ash	% mass	0.1	max	ISO 6245 / ASTM D482
Vanadium	mg/kg	150	max	ISO 14597 / IP 501 / IP 470
Sodium	mg/kg	45	max	IP 501 / IP 470
Aluminium + Silicon	mg/kg	45	max	IP 501 / IP 470
Used Lube Oil - Calcium	mg/kg	30	max	IP 501 / IP 471
Used Lube Oil - Zinc	mg/kg	15	max	IP 501 / IP 472
Used Lube Oil - Phosphorus	mg/kg	15	max	IP 501 / IP 473
Heat Value	Btu/lb	18,000	min	ASTM D240

Physical and Chemical Properties

- Appearance: Dark brown to black viscous liquid
- Odor: Characteristic hydrocarbon
- Specific Gravity: 0.98 – 1.01
- Viscosity (at 50°C): 180 – 380 cSt
- Flash Point: $\geq 100^{\circ}\text{C}$
- Reactivity: Stable under normal conditions

Safety Information

Prolonged exposure to vapors may cause irritation. Avoid inhalation and skin contact. Use adequate ventilation and protective clothing.

First Aid Measures:

- Eye Contact: Flush with water and seek medical attention.
- Skin Contact: Wash with soap and water; remove contaminated clothing.
- Inhalation: Move to fresh air; seek medical assistance if symptoms persist.

Fire Protection

- Flash Point: $\geq 100^{\circ}\text{C}$
- Extinguishing Media: Foam, dry chemical, or CO_2
- Firefighters: Use self-contained breathing apparatus (SCBA)

Packaging

Heavy Fuel Oil (HFO) is supplied by bulk cargo shipments in vessels, according to the exact quantity specified by the client. Ensuring secure logistics and cost-efficient handling for international operations.

Disclaimer

The information provided is based on current technical data and is believed to be accurate. It is intended for guidance only and does not constitute a contractual guarantee.