SMART SOLUTIONS

For Sustainable Future

❖ FURNACE OIL

Furnace Oil is a dark viscous residual fuel obtained from crude distillation. Bunker Oil and Fuel Oil are the other names for Furnace Oil. Viscosity is the most important characteristic in Furnace Oil specification. It influences the degree of pre-heat required for handling, storage and satisfactory atomization. 180 Cst grade is Bunker Fuel with max viscosity of 180 Centistokes (Thinner). 380 cst grade is Bunker Fuel with max viscosity of 380 Centistokes (Thicker).

It is used primarily for steam boilers in power plants, aboard ships, and in industrial plants for boilers and furnaces. Commercial fuel oils usually are blended with other petroleum fractions to produce the desired viscosity and flash point.

BELOW LISTED ARE THE USES OF FURNACE OIL :

- Furnace oil is used to heat fuel tanks.
- It is much used as a backup fuel for peaking power plants.
- It is utilized to produce steam for industrial uses.
- It is an integral part of generating electric energy.
- It is used to light up furnaces.
- It is used as fuel for Power Generation in DG sets.
- Furnace oil is used as fuel for bunkering.
- Furnace oil is also used as a feedstock in fertilizer plants.
- It can power many types of engines, lamps, heaters, stoves, and lanterns.

BENEFITS OF FURNACE OIL:

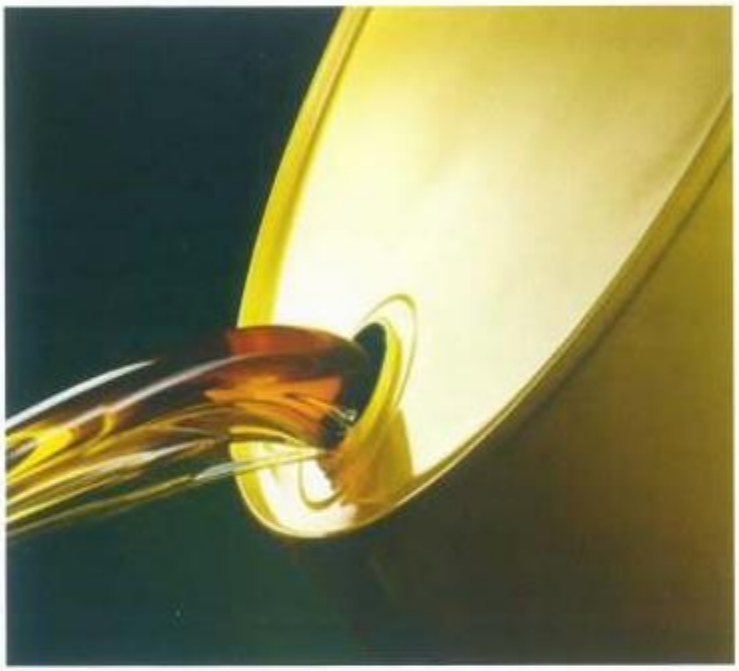
- Furnace oil is light fuel oil. It is Sulphur-free, clean, and stands solid in the most demanding conditions.
- Furnace oil is easy to handle, regulate and control.
- It can be stored easily.
- It is very cheap in price. Furnace oil is the most affordable liquid fuel available.
- It requires less maintenance.
- Furnace oil has proven to perform great in extreme cold.
- It is a pretty much stable, combustible, non-explosive product.
- The fuel oil is much safer, more efficient, and gives more warmth than natural gas.
- It gives you a longer furnace and boiler life, so you face less depreciation.
- Apart from that, furnace oil is also more common and cost-effective to use.

SPECIFICATION FOR FURNACE OIL

SL No	PARAMETER	SPECIFICATION	STD.METHOD	Typical Analysis
1	Density @ 15°C g/ml	0.9900 Max	ASTM D 1298	0.9800
2	Flash Point (PMC),°C	66 Min.	ASTM D 93 /IP 34	70
3	Pour Point °C	+18 Max.	ASTM D 97 / IP 15	-9
4	Gross Calorific Value	10500 Kcal/Kg		
5	Ash (% by Mass.)	0.15 Max	ASTM D 482 / IP 4	0.04
6	Water content (% by Mass).	1 Max.	ASTM D 95 / IP74	<0.05
7	Sulphur, Total (% by Mass)	3.5 Max	ASTM D 4294	3.20
8	Sediment (% by Mass)	0.25 Max.	ASTM D 473 / IP 53	0.04
9	Vanadium(ppm)	250	UOP 391 /91	170
10	Sodium, ppm)	50	UOP 391 /91	20
11	Viscosity, Kinematic 50°C, cSt	380 Max.	ASTM D 445 / IP 71	370
12	Potential Sediment (% by ageing)			0.5

❖ LIGHT DIESEL OIL (LDO)

LDO (Light Diesel Oil) is a medium-coloured fuel, either distilled or residual fraction of various oils that is extracted while distillation. This fuel is free flowing in nature. Class C category fuel. Flash point above 60 degrees Celsius. Effective fuel alternative for varieties of furnace & boiler applications. Light diesel oil, or LDO, is a blend of components from the distillation process of crude.



Applications :

Light diesel oil is used as fuel in many applications :

- Boilers
- Furnaces
- Air pre-heaters
- Lower RPM engines
- Lift irrigation pump sets
- Fertilizer plants
- Bunker
- DG set

SPECIFICATIONS

SL No	DESCRIPTION	UNITS	LDO
1	Acidity Inorganic	mg KOH /gm	Nil
2	Ash content	% mass	0.2
3	Carbon residue (Ramsbottom) on 10% residue	% mass, max.	1.50 (on whole sample)
4	Pour Point, max	a) Winter b) Summer	12°C 21°C
5	Flash Point, Min	°C	66° C
6	Density @15°C	Kg/m	To be reported
7	Kinematic Viscosity @ 40°C, Max	cSt	2.5 to 15.7
8	Sediment, % mass, max	% mass	0.10
9	Sulphur, total, max	% mass	1.8
10	Water Content % Vol	mg/kg	0.25
11	Gross Calorific Value	cal/gm	To be reported

❖ LOW SULPHUR HEAVY STOCK (LSHS)

Low Sulphur Heavy Stock (LSHS) is a residual fuel processed from low Sulphur Crude. Due to its high pour point, it requires handling above ambient temperature, to maintain desired fluidity during storage and handling. LSHS is transported in insulated tank Lorries. This fuel is used mainly in applications similar to furnace oil. The difference between LSHS and Furnace oil is Higher Pour Point, High calorific Value and Low Sulphur Content.

APPLICATIONS:

Like Furnace Oil, LSHS is used primarily for steam boilers in power plants, aboard ships, and in industrial plants for boilers and furnaces. It is an environment friendly Industrial Fuel for firing Boilers, Furnaces, etc. The main advantage in the use of LSHS lies in its low Sulphur content. The life of equipment used is extended since the extent of corrosion both at high and low temperature is reduced very much. Besides, it is also advantageous from the environmental pollution point of view, because it will emit lesser quantity of Sulphur Dioxide. The gross calorific value of LSHS is more than that of Furnace Oil. So, the consumption of fuel will be reduced with the usage of LSHS.

SPECIFICATIONS OF LSHS

SL No	PARAMETER	Requirements Grade 1	Test Method [P:] of IS:1448
1	Pour point, OC, Max	66	[P:10]
2	Flash point, (PMCC), OC, Min	76	[P:21]
3	Kinematic viscosity, mm2/s at 100OC, Max	To be reported	[P :25]
4	Sp. Gravity at 15OC	To be reported	[P:32]
5	Gross calorific value, cal/ gm	To be reported	[P:6]
6	Acidity, Inorganic	Nil	[P:2]
7	Ash, % by Mass, Max	0.1	[P:4] Method A
8	Sediment, % by mass, Max	0.25	[P:30]
9	Sulphur, total, % by mass, Max	1.0	[P:33]
10	Water content, % v/v, Max	1.0	[P:40]

❖ CARBON BLACK FEED STOCK (CBFS)

CBFS is a dark-colored viscous liquid that is obtained by doing fractional distillation of petroleum fractions at higher temperatures. It is the raw material for manufacture of carbon black, which is used by the tyre industry.

APPLICATIONS:

A small portion of this product is also used by processors to make various downstream chemicals like Agarbatti Oil, White Oil etc. This is also used for manufacture of Rubber Process Oils. There are two types of CBFS viz. High BMCI type and General type. "BMCI" (Bureau of Mines Co-relation Index) effectively measures the degree yield of Carbon Black. The higher the number, the better the yield of Carbon Black. Sulphur content in CBFS reduces the effect of BMCI value.

CBFS is used to produce Carbon Black, which is used in tyres and road paving, tyre reinforcements, black pigments (e.g. for road markings), and conductors. The stream also contains piperylene, which is used to produce copolymerization elastomers, petroleum resins, curing agents, pesticides, and perfumes.

Carbon Black Feedstock may be used as a source for:

- Naphthalene - used for phthalic anhydride, insecticides, and concrete plasticizers.
- Biphenyl - used for food preservatives, heat transfer fluids, and organic syntheses.
- Fluorine or anthracene - used for light emitting diodes, dyes, and wood preservatives.

TECHNICAL SPECIFICATIONS

SL No	CHARACTERISTICS	TEST METHOD	TEST VALUE	UNIT
1	Color	IS : 1967 P : 12	3.0 – 7.5	ASTM
2	Appearance	Visual	Dark	
3	Density 30°C	IS : 1448 P : 16	0.99 Min	gm/ml.
4	Flash Point	IS : 1992 P : 69	95 Min	°C
5	K. Viscosity @ 100°C	IS : 1448 P : 25	18 – 20	cSt
6	Pour Point	IS : 1448 P : 10	10 Max	°C
7	Sulfur Compounds	IS : 1448 P : 33	0.5 – 2.5	% by mass
8	Ash	IS : 1448 P : 04	0.03	% by mass
9	Gross Calorific Value	IS : 1448 P : 06	10,000 Min	Cal/g

❖ C-9 SOLVENT

C-9 Aromatic hydrocarbons are a series of organic molecules that form flat ring-shaped bonds. Aromatic hydrocarbon C9/C10/C12 resins are conventionally named because they are defined by the number of carbon monomers in the chemical.

Aromatic hydrocarbons have a distinctive aromatic odor and a typical Gardner colour of 6 – 10 (dark yellow to dark brown). They are insoluble in water, low alcohols and ketones, however are soluble in aliphatic hydrocarbons and chlorinated hydrocarbon solvents.

Applications:

The products will serve a broad range of industries and applications like Paints and Coatings, Printing Inks and Reducers, Offset inks, Agro-chemicals, Surfactants, Emulsifiers, Oil Field Chemicals, Foundry Chemicals, Water Treatment Chemicals, Disinfectants, Wash Oils, etc. They are also used for hot road markings. The end user markets for this product are the paints, coatings and rubber industries

TYPICAL SPECIFICATIONS :

Sl No	PARAMETER	TEST METHOD	UNIT	RESULT
1	Color	ASTM D 1500	—	0.0 (Water White)
2	Appearance	Visual	---	Clear liquid, free from sediments
3	Specific Gravity @30°C	IS 1448 P:16	gm/ml	0.865 TO 0.875
4	Flash Pont PMCC	IS 1448 P:21	°C	45 TO 50
5	Aromatic Content	IS 1448 P:48	% V/V	> 99.5
6	Boiling Range	IS 1448 P:18	°C	
7	IBP		°C	155 To 160
8	50 %		°C	Report
9	FBP		°C	185 TO 190
10	MIXED ANILINE POINT	IS 1448 P:3	°C	15 TO 16

❖ MINERAL TURPENTINE OIL (MTO)

Mineral Turpentine Oil or Paint Solvents or White spirit also known mineral spirits or, generically, "paint thinner", is a petroleum-derived clear liquid used as a common organic solvent in paints.

INDUSTRIAL USES OF MTO:

Used as an extraction solvent, as a cleaning solvent, as a degreasing solvent and as a solvent in Aerosols, Paints, Wood preservatives, Lacquers, Varnishes, Resins, etc.

PHYSICAL AND CHEMICAL PROPERTIES

SL No	PARAMETER	SPECIFICATION	TEST METHOD
1	Physical state	Liquid	Visual
2	Colour	Water white	Visual
3	Clarity	Clear	Visual
4	Specific gravity at 30°C	0.785	ASTM D 4052
5	Water solubility	Insoluble	Visual
6	Distillation range	125°C to 240°C	ASTM D 86
7	Flash point, Abel apparatus	30°C	ASTM D 93

OUR STRENGTH:

- **Well established Plant & Machinery**
- **Adequate, well qualified and experienced manpower**
- **Excellent Team Work**
- **Full-fledged Laboratory for rigid Quality Control**
- **Zonal Offices at prominent locations in the states of Gujarat, Rajasthan & Madhya Pradesh.**
- **Fleet of own Tank Trucks for timely movement of finished goods**
- **Product-wise sound customer base**
- **Business association with well reputed organizations**
- **Timely delivery of quality products**
- **Customer satisfaction**

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For Sustainable Future

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