

Green



INTRODUCTION

GrieseL is a clean burning alternative fuel, produced from domestic renewable resource of vegetable oil. It is simple to use, biodegradable, nontoxic, and essentially free of sulphur and aromatic hydrocarbons.

GrieseL is manufactured by simple process on a natural oil or fraction. The standard properties of **GrieseL** are as under...

PHYSICAL PROPERTIES OF GRIESEL

Colour	▶ Deep Yellow to dark brown
Kinematic Viscosity at 40°C.	▶ 4.0 -14.0 mm ² /sec.
Sp. Gr.	▶ 0.86 - 0.90
Ash(%by mass)	▶ <0.2
Sulphur	▶ Nil
Boiling point	▶ 240 - 360 deg C
Flash Point (Closed cup)	▶ 120 deg C min



TM
GRIESEL
Green Commitment

BENEFITS OF USING GRIESEL

- Superior fuel oil for furnaces, boilers and other Light Diesel Oil applications.
- Similar calorific value.
- No Sulphur content, ash and carbon residue.
- 11% in-build oxygen which gives 100 % burning efficiency compared to petroleum LDO.
- Flash point of **GrieseL** is > 120 deg C compared to flash point of LDO which is 66 deg C.
- It does not require an "Explosive License" for storage.
- Safe to store / handle and transport **GrieseL** compared to LDO.
- Complete combustion and lesser carbon residue of **GrieseL** increases life of the furnaces / boiler / thermo pack.

ENVIRONMENTAL BENEFIT

- SOx Elimination-Sulfur emissions are essentially eliminated with **GrieseL**. The exhaust emissions of sulphur oxides and sulfates (major components of acid rain) from **GrieseL** are essentially eliminated compared to LDO/Diesel.
- Carbon Monoxide -The exhaust emissions of carbon monoxide (a poisonous gas) from **GrieseL** are on average 48 percent lower than carbon monoxide emissions from LDO/Diesel.
- Hydrocarbons - The exhaust emissions of total hydrocarbons (a contributing factor in the localized formation of smog & ozone) are on average 67% lower for **GrieseL** than LDO/Diesel.
- Particulate Matter - The exhaust emissions of particulate matter from **GrieseL** are about 47 percent lower than overall particulate matter emissions from LDO/Diesel

ECONOMICAL BENEFIT

Calorific value of **GrieseL** is equivalent to calorific value of LDO, HSD.
GrieseL gives the same energy output at a low cost.



Fuelling the... green revolution



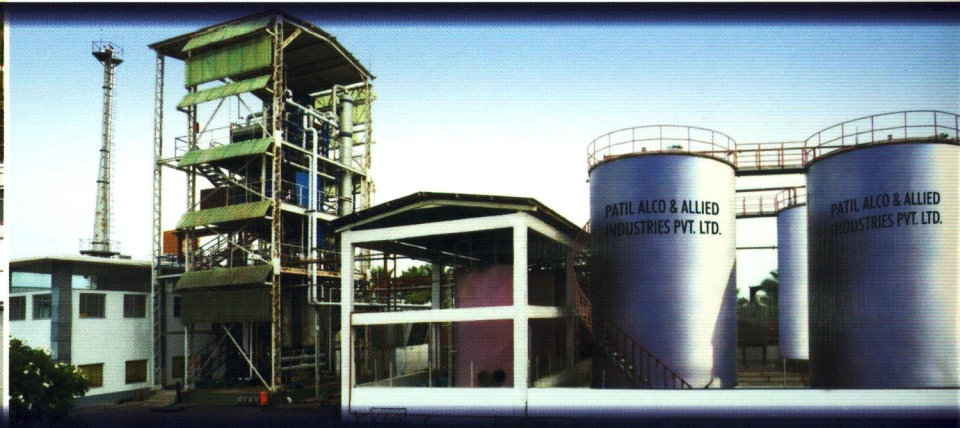
COMPARISONS OF GRIESEL AND LDO FUEL

Technical specifications	BIS Standard for LDO	LDO of Oil Marketing Companies	GRIESEL	Remarks
Calorific Value, in Kcal/ kg	9900 -10500	10300	9900-10700	Very Similar to LDO
Ash % by Mass, Max.	0.02	0.01 - 0.02	0.01	Lower the ash better the performance
Carbon Residue (Ramsbottom), On 10% residue % by Mass, Max	1.5	1.5	<1.0	Lower the carbon residue, better the performance
Density in Kg/m3	To be reported	<890	870 - 900	Very similar to that of LDO
Kinematic Viscosity @ 40 Deg.C in cst	5- 15.7	5- 15.7	4 - 14	Lower the viscosity better the performance
Biodegradability	Poor Biodegradability		Degrades readily	
Toxicity	Highly Toxic		Essentially non toxic	
Fuel Type	Polluting Non renewable		Clean renewable	
Shipping	Hazardous		Non Hazardous Non Flammable	
Total Sulphur, % by mass, Max	1.8	1.5- 1.8	Almost nil	Lesser the sulphur content better the efficiency and more eco-friendly
Water Content, % by volume, Max	0.25	0.25	0.05 - 0.20	Lesser water content yields better efficiency
Flash Point in Deg.C, Min	66	66	>120	Higher the Flash Point, safer the fuel & hence no need of explosive or storage license



APPLICATIONS OF GRIESEL

GrieseL can replace HSD and LDO and can be used in steam boilers, thermic fluid heater, furnaces.



www.grieseL.in

ABOUT GRIESEL INDIA BIO FUELS PVT. LTD.

Operating for the last 7 years.

Diversifying from the Ethanol to the Green Fuel Industry.

Automatically run advanced technology plant to give uninterrupted supply.

Facility close to the national highway & industrial area.

Various eco-friendly products in pipeline to replace commercial polluting fuels or chemicals.



GRIESEL INDIA BIO FUELS PVT. LTD.

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