HIGH SPEED DIESEL OIL - NORMAL		
NAVY GRADE (LSHF)		
TEST	**METHOD**	**SPECIFICATION**
Density @ 15°C, kg/m3 (1)	IS 1448 P :16	820 to 860
Colour (ASTM) *	ASTM D 1500	Max. 5
Water Content, %(v/v)	IS 1448 P :40	Max. 0.05
Flash Point (PMCC), °C	IS 1448 P :20	Min. 66
Viscosity (Kinematic) @ 40°C, cSt	IS 1448 P :25	2.0 to 5.0
Pour Point, °C (2)	IS 1448 P :10	Max. 3 (Winter)
		Max. 15 (Summer)
Copper Strip Corrosion(3 hr. @ 100°C)	IS 1448 P :15	Not worse than No. 1
Total Sulphur, mg/Kg (3)	ASTM D : 4294 / D 2622	Max. 0.2
Acidity (Total), mg KOH/g	IS 1448 P :2	To report
Acidity (Inorganic)	IS 1448 P :2	Nil
Sediment(by Extraction), %wt.	IS 1448 P :30	Max. 0.05
Ash, %wt.	IS 1448 P :4	Max. 0.01
Carbon residue (Ramsbottom) on 10% residue, %wt. (4)	IS 1448 P :8	Max. 0.30
CFPP, °C (2)	IS 1448 P :110	Max. 6 (Winter)
		Max. 18 (Summer)
Cetane Number (5&6)	IS 1448 P :9	Min 48
Or		
Cetane Index (5&6)	ASTM D 4737	Min 46

Total Sediments, mg/100 ml (7)	Annex A of IS:1460-2005/ASTM D2274	Max. 1.5
Distillation :	IS 1448 P :18	
Recovery @ 350°C, %v		Min. 85
Recovery @ 370°C, %v		Min 95
Conforms to BIS : 1460:2005 specifications for High Flasd HSD		

Note:
(1) For fuel processed from Assam crude, the density range is relaxed to 820-870 and 820-855 for Bharat Stage II and Bharat Stage III grades respectively.
(2) Winter shall be the period from November to February in central and northern plains of India (both months inclusive) and rest of the months of the year shall be called as summer.
(3) For HSD supplied to Indian Navy, the limit of sulphur shall be in agreement between the buyer and the supplier
(4) This limit is applicable prior to addition of ignition improvers, if used. In case a value exceeding the limit is obtained on finished fuels in the market, ASTM D4046/ISO 13759 shall be used to establish the presence of nitrate containing compound. In such case the present limit for carbon residue cannot be applied. However, the use of ignition improver does not exempt the manufacturer from meeting this requirement prior to the addition of additives.
(5) Fuel meant for vehicles meeting Bharat Stage II emission norms is required to meet either of these two parameters.
(6) For Fuel processed from Assam crude, Cetane number and Cetane index is relaxed by 3 units.
(7) This test shall be carried out only at the refinery or manufacturer's end. As an alternative, the test method given Annex A can also be used with a limit of 1.6 mg/100 ml. In case of dispute, ASTM D2274 shall be the refree method.

* In addition to BIS specification BPCL(R) controls these parameters for better customer satisfaction.