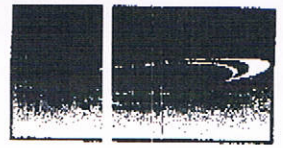




भारत सरकार - रेल मंत्रालय  
अनुसंधान अभिकल्प और मानक संगठन  
लेखनक - 226 011  
EPBX (0522) 2451200  
Fax (0522) 2458500

Government of India Ministry of Railways  
Research Design & Standards Organisation  
Lucknow - 226 011  
DID (0522) 2450115  
DID (0522) 2465310



No.ED.6.16.4 Vol VIII

Date: 05/03/15

Chief Mechanical Engineer  
CMPE/Dsl  
All Indian Railways

Sub: Tests for Biodiesel

Ref: (i) Railway Boards Letter No.2010/Fuel/282/2 Pt I dated 2<sup>nd</sup> March '15  
(ii) RDSO letter no. No.ED.6.16.4 (Vol VII) dated 07/01/2015.

With reference to (ii) above, Para 2 (iii) and (iv) have been reviewed and are enclosed as below-

Para 2 (iii) of reference (ii) to be read as-

'Subsequent to clearance of above, firm to dispatch biodiesel to purchaser as per terms and conditions of the purchase order. The characteristics of biodiesel which will need to be tested for each sub lot, at manufacturer's end, in presence of IR inspecting agency, before dispatch, are as per revised Annexure II enclosed. {These would be sub lots of the main lot manufactured by the supplier and being supplied as per delivery requirements of the purchase order}.

Para 2 (iv) of reference (ii) to be read as-

The characteristics of biodiesel which need to be tested for each lot, received at RC, by IR inspecting agency, are as per revised Annexure III.'

The tests requirements indicated as per revised Annexure II and III would be reviewed based on experience gained.

(R.N.Misra)  
Sr.ED(CNG) ED

C/- EDME/Traction/Railway Board; for information pl.  
CAO/IROAF: for information pl.  
ED/M&C/RDSO: For information pl.

For info as per enclosed list

Revised Annexure II

05/03/15

Characteristics of Biodiesel which would need to be tested for each sub lot at Manufacturer's end before dispatch to limits of IS 15607:2005 (latest revision)-

S.No.	Characteristic	Test Method
		ISO/ASTM/IS :1448
1.	Density @ 15 °C, kg/m <sup>3</sup>	P-16/P-32
2.	Kinematic Viscosity @ 40 °C, Cst	P-25
3.	Flash Point,(PMCC) °C, Min.	P-21
4.	Water content ,mg/kg, max	D 2709
5.	Total contamination, mg/kg, max.	EN 12662
6.	Copper corrosion 3 hrs @ 50 °C, max	P-15
7.	Acid value, mg KOH/g, max	P-1/sec-1
8.	Ester content % by mass, max	EN 14103
9.	Total Glycerol % by mass, max	D 6584
10.	Oxidation stability @ 110 °C, h, min.	EN 14112

Revised Annexure III

05/03/15

Characteristics of Biodiesel which would need to be tested for each sub lot on receipt at RCD to limits of IS 15607:2005 (latest revision)-

S.No.	Characteristic	Test Method
		ISO/ASTM/IS :1448
1.	Density @ 15 °C,kg/m <sup>3</sup>	P-16/P-32
2.	Kinematic Viscosity @ 40 °C,Cst	P-25
3.	Flash Point,(PMCC) °C,Min.	P-21
4.	Copper corrosion 3 hrs @ 50 °C,max	P-15
5.	Water content ,mg/kg, max	D 2709