

## Summary of the completed project

### DST/TSG/AF/2008/54

The biodiesel testing lab developed at JSSATE, under the sanctioned project, provides the quality testing of biodiesel and bio fuel oil as per Indian standards. It is a regular ongoing facility utilised by many beneficiaries.

Number of small and medium Bio-diesel plants have been setup in the last 4 years at various parts of the country. Karnataka state government has set up biodiesel production units at different districts. However, it is not possible for all the production centers to be equipped with testing facilities. Hence, the facilities are extended to the other beneficiaries such as small and medium scale producers and hobby producers. The facilities are also extended to under graduate and post graduate students of various technical institutes in Karnataka to take up Biodiesel related Projects.

The following parameters as per IS15607:2005 are measured using the lab facility.

#### The Details of Bio-diesel specifications and test methods.

Sl. No.	Parameters/ Characteristics	Unit	Value& Test method		equipment used
1.	Density	Kg/m <sup>3</sup>	0.86-0.9	D1298	Hydrometer
2.	Kinematic Viscosity	mm <sup>2</sup> /sec.	2.2-6.0	ASTM D-445	Cannon Fensky viscometer
3.	Flash point	<sup>0</sup> C	120 (min)	D-93	Pensky –martens closed cup test.
4.	Water content and sediments	mg/Kg	500 (max)	IP-386, D-2709	Centrifuge
5.	Copper Corrosion		1 (max)	IP-154, D-130	Copper strip corrosion test
6.	Total Acid Number	mgKOH/g	0.5 (max)	ASTM D -974, D-664	Potentiometer
7.	Ester Content (FAME)	Mass%	96.5 (min)		Gas Chromatograph
8.	Moisture content	Mass%			Karl-Fischer Moisture analyzer

The laboratory set up is bridging the gap between biodiesel production and the quality requirements of the end product.