**Abstract**

Biodiesel production has received considerable attention in the past as a biodegradable and non-polluting fuel. The production of biodiesel by transesterification process employing alkali catalyst has been widely accepted for its high conversion and reaction rates. In India, edible oils like sunflower, mustard, palm, cotton seed oil, groundnut oil etc., are available in abundance, which can be converted to biodiesel. In the present study, biodiesel has been prepared from cotton seed oil. As the acid value is less than two, it is easily converted to biodiesel by transesterification process. The experimental work revealed the suitability of sodium hydroxide/potassium hydroxide and methanol as solvent for maximum methanolysis at 60-70°C in 45 minutes. Properties of biodiesel are in concordance with international standards.