

Oral Presentation

Biodiesel Viscosity and Flash Point Determination

Eman A. Ateeg, Sharif M. Musameh, Issam R. Abdelraziq

Department of Physics , An-Najah National University, Palestine.

Abstract

In this research, biodiesel samples of different percentages of blend biodiesel (Palestinian biodiesel prepared from waste oil) and petro-diesel were studied. The density, refractive index, flash point and viscosity of the samples were measured. The flash points were measured as a function of percentage of biodiesel, the results emphasized that the flash points increase as the percentage of biodiesel increases in the sample. Two equations were proposed to obtain more suitable prediction of the flash point. The values of flash points of biodiesel were compared with the standard value of flash point of biodiesel. The comparison shows that samples containing more than 40% biodiesel coincide with standard values.

The values of kinematic viscosity of biodiesel were compared with the Palestinian standard value of biodiesel. The comparison shows that samples containing less than 72% biodiesel coincide with standard value. Taking into consideration results of kinematic viscosity and flash point one can suggest percentage 71% of biodiesel and 29% petro-diesel as the best percentage that the two materials can be mixed according the Palestinian standards.