

## Poster Presentations

---

### Formulation of Microemulsion Based On Sugar Surfactant As An Alternative Fuel

**Salam Wadaah,** Ibrahim Kayali, Khalid Kanan, Monzer Fanun

*College of Science and Technology, Al-Quds University, Jerusalem, Palestine*

[Salamsalah37@yahoo.com](mailto:Salamsalah37@yahoo.com)

#### **Abstract**

In this study we innovated microemulsion formula that serve as water in diesel fuel using minimum amount of commercial and strongly hydrophilic sucrose monolaurate surfactant (1695) combined with medium chain alcohol. 1-pentanol has the best effect in enhancing w/o micremulsion region in the pseudo ternary phase diagrams. Moreover the phase behavior of sucrose monolaurate (1695), studied as a function of temperature and surfactant concentration, presented the form of the well-known 'fish' diagram. Anisotropy was detected using visual inspection, cross polarizers and polarizing microscope. Water volume fraction percolation thresholds were determined by studying the electrical conductivity. The average hydrodynamic diameter of microemulsion, measured using dynamic light, scattering equals 10.86 nm at 25°C.