

# Used Oil Ash Reduction Without Heat

### *Introduction*

Emulsions Control customers have been successfully de-ashing used oil at 160-190°F, reducing the ash content to 0.05-0.1%, using sulfuric acid and demulsifier.

Although reliable, effective and capable of producing high-quality/high-value oil, the process requires heat and a corrosion-resistant metal tank.

There is an increasing need, in several markets for oil that is < 0.3% ash. Many customers facing this need do not have the ability to heat the oil, and thus have been forced to blend down the used oil, or sell it in a less lucrative market.

ECI has tackled this problem, and we offer you this simple solution.

### *Application*

A simple ash reduction/demulsification process may be implemented as follows:

1. The oil at ambient temperature (60-80°F) in a polytank.
2. Thoroughly mix in enough water to raise total water content to around 20% by volume. For example, if BS&W is 10%, add 10% water.
3. Mix in slowly (carefully) 2-4 gallon of sulfuric acid per 1000 gallon of the oil-water mixture. Maintain agitation for about 3 hours.
4. Mix in ECO\* 70ZUK at 4 gallon per 1000 gallons, ensuring thorough contact, but avoiding extended agitation. Look for uniform color change to black.
5. Settle the treated mixture overnight.
6. Drain separated water, which will be orange in color and have pH of 2-3.
7. Recover the oil layer, which will be bright, red-black. The oil will typically analyze at 0.2-0.5% BS&W, and have an ash content of 0.1-0.2%.

*\*Trademark of Emulsions Control, Inc.*

2300 Tidelands Ave National City CA 91950; Tel (619) 656-8899/98; Fax (619) 477-7147; [eci-info@emulsionsonline.com](mailto:eci-info@emulsionsonline.com)