

Press Release  
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## Techenomics International begin FAME testing in Indonesia

Leading lubrication and condition monitoring specialist, Techenomics International, has begun FAME testing of Biodiesel in Indonesia to ensure the bio fuel is of the correct spec requirements.

According to Techenomics International, CEO Chris Adsett, "Techenomics have always had the capability to carry out FAME testing, but we have only recently been asked to do the test by Indonesian consumers of biodiesel."

FAME testing is used to check the mixing of the components of Biodiesel. Techenomics follows the ASTM D 7371-12 Standard Test Method for Determination of Biodiesel (Fatty Acid Methyl Esters) Content in Diesel Fuel Oil using Mid Infrared Spectroscopy (FTIR-ATR-PLS Method).



Eka Karmila - Chief Chemist,  
Techenomics Indonesia

FAME testing needs to be carried out as Fatty-acid methyl ester (FAME), is obtained from vegetable oil or animal fats which have been trans esterified with methanol. It can be produced from many types of oils, the most common being rapeseed oil in Europe and soybean oil in the USA.



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Methanol can also be replaced with ethanol for the trans esterification process, which results in the production of ethyl esters. The trans esterification processes use catalysts, such as sodium or potassium hydroxide, to convert vegetable oil and methanol into FAME and the undesirable by-products glycerin and water. These by-products need to be removed from the fuel along with methanol traces.

FAME can be used pure (B100) in engines where the manufacturer approves such use, but it is more often used as a mix with diesel, BXX where XX is the biodiesel content in percent.

Blends of biodiesel and conventional hydrocarbon-based diesel are products most commonly distributed for use in the retail diesel fuel marketplace. Much of the world uses a system known as the "B" factor to state the amount of biodiesel in any fuel mix:

- 100% biodiesel is referred to as B100
- 20% biodiesel, 80% petrodiesel is labeled B20
- 5% biodiesel, 95% petrodiesel is labeled B5
- 2% biodiesel, 98% petrodiesel is labeled B2



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If Techenomics International discovers the components of Biodiesel to be incorrect clients can then reject the fuel or make decisions with respect to the suitability of the fuel for the equipment. Incorrect mixing may lead to premature wear and a warranty claim.



-ENDS-

For more information on FAME testing please contact Eka Karmila, email: [eka@techenomics.com](mailto:eka@techenomics.com) or visit [www.techenomics.net](http://www.techenomics.net)

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