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Improved testing of integrity and quality of Biofuels and FAME

Today biofuels are considered to be a more environmentally responsible type of fuel compared to traditional fossil fuels because they offer many advantages in terms of ecological sustainability and reduced carbon emissions.

The European Union proposes 10% of road vehicle fuel should come from renewable sources by 2020 whilst in the USA 36 billion gallons of renewable road transport fuels are likely to be produced by 2022. Overall it is estimated that biofuels could account for more than 30% of the world's road transport fuel mix by 2050.

The increasing production of biofuels, which have considerably different properties to traditional fossil based fuel products, creates the need for careful control and testing.

Ester-fuel blends are manufactured to rigid specifications so it is vitally important that quality is checked during production and also throughout the distribution chain to ensure that correct ester percentage levels are maintained.

Another important area is to 'spot' test for the presence of bio compounds as Bio ester components blended into automotive biodiesel have a tendency to stick to metal or glass surfaces and can cross-contaminate supply lines that handle different fuel types. In addition Biofuels have a potential to contaminate from bacterial or fungal growth which can cause damage to tanks & tank linings, filters, fuel delivery systems and engine components, especially in climates of high humidity.

The new **SetaAnalytics Estercheck** has been designed to provide the biofuels industry with a fast and accurate means of determining ester content in both biofuel blends and raw bio ester components.

The unique instrument has been developed on the back of recent advances in RF sensor technology and results show excellent correlation with the more complex, laboratory based FTIR analytical methods that are traditionally needed for such tests.

Estercheck reports absolute bio-ester values in less than 2 seconds.

Estercheck is easy to operate – simply dip the probe into the sample and press 'measure' to display '% bio' result. Measurements are stored (with time and date) and can be downloaded to a host computer. The instrument is housed in a robust case with mini-USB port for download and charging.

The test procedure requires no special technical skills or lab conditions and is therefore suitable for a very broad range of applications; from batch checking fuels at terminals to monitoring standby fuel supplies. The new instrument is ideally suited for on site tests as an early warning of possible 'bio contamination'.

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