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Technical Bulletin: Determination of Hydrogen Sulfide in Fuel Oils – Rapid Liquid Phase Extraction Method IP 570

Progress Update, H_2S Analyser & Vapour Phase Processor (VPP) Test Programme

With IP 570 now adopted on a global basis primarily for marine fuel oils, the Seta Analytics team has received significant industry interest to measure H_2S in a broader range of petroleum products, which potentially could, in certain petroleum refined matrix samples, impact slightly the response of the existing H_2S sensor.

INTRODUCING VAPOUR PHASE PROCESSOR (VPP)

To deal with this broader range of petroleum materials the Seta Analytics team have devised a novel new vapour phase processing technique which is now optimised to remove interfering chemical species from reaching the sensor ensuring only H_2S is detected and measured.

The first pre-production prototype of the Vapour Pressure Processor (VPP) began testing early July at the Seta Analytic's Technical Development facility in Chertsey. Initial results indicate that samples known to contain thiols or alkyl sulfides can be analysed successfully.

Gases emitted from the sample container are passed through a unique sorbent cartridge located in the VPP which is maintained at low temperature.

Chemical species, such as volatile mercaptans, are held back by the cartridge substrate allowing the Hydrogen Sulfide as the sole chemical species to pass over the sensor during the measurement period. Updated software calculates the H_2S content based on criteria which can differentiate H_2S peaks from gradual base line shifts, which has been seen as typical results of samples containing some light cycle oils.

ENERGY INSTITUTE SC G5 H_2S TASK GROUP – SAMPLE REQUEST

Tests on real field samples have begun and results will be reported to the Energy Institute SC G5 H_2S Task Group in September. Those wishing to participate should send samples to:

Stanhope-Seta, London Street, Chertsey, Surrey, KT16 8AP, UK. Marked "For H_2S/ VPP testing"

Users who already have an SA4000-0 H_2S Analyser can upgrade and preliminary pricing is now available.

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