

## Revised marine fuel regulations bring new era in H<sub>2</sub>S testing

The revision of the ISO 8217 bunker fuel specification by the International Standards Organization (ISO) promises changes for fuel buyers and suppliers, but it was always a process undertaken with more than one result in mind.

At a time when the industry is under pressure to blend increasing volumes of bunkers to meet demand for low sulphur fuel oil, parallel challenges of quality and safety are emerging.

Among its changes, the working group tasked with revising the ISO 8217 standard has taken an important step forward by phasing in the introduction of maximum levels of Hydrogen Sulphide (H<sub>2</sub>S) content in marine fuel.

The working group has amended the draft standard to specify a maximum permitted 2.00 parts per million (ppm mg/kg) of H<sub>2</sub>S in marine bunker fuel to reflect the potential risks that this chemical poses to the health of seafarers, port workers bunker supply personnel, inspectors and refinery personnel.

And while in an ideal world, there should be no H<sub>2</sub>S present in bunker fuel, the new limit is both a reflection of the seriousness of the issue and recognition that new test methods are needed to improve detection. The maximum parameter will be mandatory from July 2012. This is just one of a number of measures in the revision that help to promote the use of cleaner bunker fuel. It will also see the IP 570 test standard move from its current voluntary position to a mandated part of the fuel specification.

Until recently, the bunker industry relied on lengthy and complex analytical techniques for the determination of H<sub>2</sub>S, undertaken to the IP 399 test standard, a process with a number of drawbacks. As a result, the bunker industry is moving towards the adoption of a new test standard, IP 570, which is a liquid phase measurement that complies with the revised ISO 8217 marine fuel specification.

H<sub>2</sub>S presents a health risk through accumulation in the headspaces of storage tanks and marine fuel bunker tanks, dependent on factors such as storage time, elevated temperature, agitation and biochemical decomposition. H<sub>2</sub>S can also be a threat to day-to-day operations since it has the potential to corrode pipelines, storage tanks and other equipment components, which may cause mechanical problems including engine breakdown, delays and supply disruptions.

The key issue in delivering safer bunkers is to measure the potential that a fuel could have to release H<sub>2</sub>S over a period of time when the fuel is transferred, heated or agitated either onboard the ship or in other forms of transport.

To make the IP 570 process easily available to the marine industry, SetaAnalytics has developed the H<sub>2</sub>S Analyser in response to demand for accurate and reliable testing method for H<sub>2</sub>S.

The analyser is cost-effective, requiring no special training for the operator and no expensive chemicals, and removes the need for test preparations by laboratory technicians. It is also simple to use. Analysis is fully automatic and results are stored at the end of the test. The analyser software automatically detects leaks in the system and produces error codes and alerts if sample/test analysis is void.

In addition to bunker fuel blends, the H<sub>2</sub>S Analyser can also be used to measure H<sub>2</sub>S in heating oil, gas oil, diesel, distillate marine fuel and kerosene, including aviation fuel.

The H<sub>2</sub>S Analyser is the result of support for a new testing process from a number of industry stakeholders including bunker fuel testing specialist Lloyd's Register FOBAS and a group of major international oil companies.

Though the primary benefit of improved testing is safety, one H<sub>2</sub>S Analyser customer reports that using the system has shortened tank turnover time and product release, in addition to delivering better transparency on the components in its blending streams. The ability to test multiple samples in a short time provides cost savings as well as improved risk management.

SetaAnalytics is pleased that the ISO, through its proposed amendment of the 8217 specification, has recognised that testing bunker fuel for H<sub>2</sub>S is important to all stakeholders in the marine industry. Moving to the IP 570 test method with the H<sub>2</sub>S Analyser to test for H<sub>2</sub>S content at point of delivery demonstrates a duty of care to seafarers, port workers and the marine environment.

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**SetaAnalytics** is a business division of **Stanhope-Seta** and provide long established experience of testing petroleum products with the latest in measurement technologies to bring enhanced analytical solutions for hydrocarbon exploration, refining, distribution and marketing operations.

**CONTACT INFORMATION:**

Caroline Morrison, Marketing Manager  
SetaAnalytics, Division of Stanhope-Seta, London Street, Chertsey, Surrey, KT16 8AP, UK  
E: [marketing@stanhope-seta.co.uk](mailto:marketing@stanhope-seta.co.uk)  
T: + 44 (0) 1932 564391  
F: + 44 (0) 1932 568363  
W: [www.seta-analytics.com](http://www.seta-analytics.com)