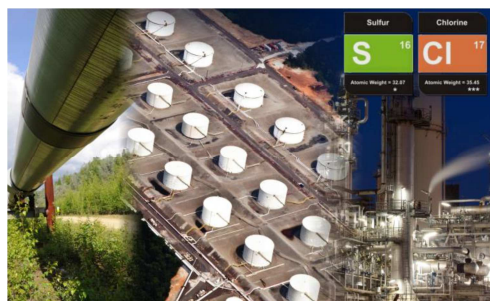


Press Release

Analysis of Sulfur and Chlorine in Crude Oil by EDXRF

Austin, TX— August 1, 2013. Applied Rigaku Technologies, Inc. has published a new application note describing the analysis of sulfur (S) and chlorine (Cl) in crude oil by energy dispersive X-ray fluorescence (EDXRF). The report includes complete information about sample preparation, method calibration and repeatability, and demonstrates the multi-element capabilities of the new [Rigaku NEX QC+ analyzer](#).

EDXRF is a technique widely used in the industry for sulfur measurement, as well as for measuring other elements present in oils and fuels. The analysis method described in the new report offers a fast, simple means of screening and monitoring the chlorine content of crude at the well site, along pipelines, during blending and other pre-refining examinations. For the analysis described in the report, eight certified oil standards were used to develop empirical calibrations for sulfur and chlorine. The empirical method was used to determine the detection limits for both elements. Measurements shown in the report were carried out on the Rigaku NEX QC+ spectrometer, a new low cost, high resolution benchtop EDXRF elemental analyzer featuring a high-resolution Peltier cooled Silicon Drift Detector (SDD) and 50 kV X-ray tube, which provides greater applications versatility and low limits-of-detection (LOD). The configuration is designed to enable more precise analytical results with shorter measurement times.



The results demonstrate that, given stable samples, proper sample handling and proper calibration techniques, the use of compact benchtop instrumentation employing semiconductor detectors can easily resolve and measure sulfur and chlorine present in oil. The spectrum presented confirms that the Rigaku NEX QC+ EDXRF analyzer can achieve excellent results in screening and monitoring the concentration of sulfur, chlorine and other elements in crude oil and other similar oils.

A copy of this application report may be requested at http://www.rigakuedxrf.com/edxrf/app-notes.html?id=1331_AppNote

About Rigaku

Since its inception in Japan in 1951, Rigaku has been at the forefront of analytical and industrial instrumentation technology. Rigaku and its subsidiaries form a global group focused on life sciences and general purpose analytical instrumentation. With hundreds of major innovations to its credit, Rigaku and its subsidiary companies are world leaders in the fields of small molecule and protein crystallography, X-ray spectrometry and diffraction, X-ray optics, as well as semiconductor metrology. Rigaku employs over 1,100 people globally and its products are in use in more than 70 countries – supporting research, development, production control and quality assurance activities. Throughout the world, Rigaku continuously promotes partnerships, dialog, and innovation within the global scientific and industrial community.

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