

Press Release

Rigaku Publishes New Application Note for Analysis of Sulfur and Chlorine in Oil by EDXRF

Austin, TX— May 14, 2013. Applied Rigaku Technologies, Inc. is pleased to announce the publication of a new application report that details the analysis of sulfur (S) and chlorine (Cl) in oil by energy dispersive X-ray fluorescence (EDXRF). The report highlights the multi-element capabilities of the low-cost [Rigaku NEX QC benchtop analyzer](#) and includes complete information about sample preparation, method calibration and repeatability.

Chlorine is often present in crude oils either naturally or through contamination. Left unmeasured, chlorine may bias sulfur measurement during the blending of crude oil or cause corrosion during the refining process. Furthermore, the appropriate balance of sulfur and chlorine determines the efficiency and lubricity of cutting fluid, as unbalanced amounts can cause damage to cutting tools and machined parts. Monitoring the sulfur and chlorine content is therefore critical in the production of various oils and oil products.



The method for analysis of sulfur and chlorine in oil described in the new report is suitable for the measurement of crude oil, cutting fluids and high chlorine content used oils. For the analysis, twelve certified oil standards were used to develop empirical calibrations for sulfur and chlorine, two typical calibration standards were selected to demonstrate precision, and the empirical method was used to determine the detection limits for both elements. Measurements demonstrated in the new report were carried out on the Rigaku NEX QC EDXRF analyzer.

The results show that the NEX QC analyzer provides excellent performance for the measurement of sulfur and chlorine in oil, and that the use of compact benchtop instrumentation employing semiconductor detectors can easily resolve and measure the sulfur, chlorine and other elements present in oil.

A copy of this application report may be requested at http://www.rigakuedxrf.com/edxrf/app-notes.html?id=1277_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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