

Press Release

Rigaku NEX QC EDXRF for Analysis of Lube Oils

Austin, TX – August 28, 2012. Applied Rigaku Technologies, Inc. today announced a new method for the petroleum market which demonstrates the capabilities of the advanced low-cost Rigaku NEX QC EDXRF benchtop analyzer. The new method, presented in Rigaku Application Note #1249, describes the measurement of Phosphorus (P) Sulfur (S) Calcium (Ca) and Zinc (Z) in lube oil in compliance with ASTM D6481-99 and demonstrates the effectiveness of the NEX QC benchtop EDXRF analyzer for the elemental analysis of lube oil by Energy Dispersive X-ray Fluorescence spectrometry.

Certain oils are formulated with organo-metallic additives which act as detergents, antioxidants, and anti-wear agents. These additives often contain one or more of the noted elements. Determining the concentrations of these elements therefore provides an indication of the additive content of the oils.

Quality control and quality assurance during the lube oil manufacturing process is essential and a quick, easy method for analyzing lube oils is needed throughout the QC/QA process. The test method described covers the quantitative determination of additive elements in unused lubricating oils and is primarily designed to be used at the manufacturing location for the monitoring of additive elements, but is also suitable for use in central and research laboratories.

For this method, empirical calibrations were built using a suite of 16 commercially available calibration standards which are representative of the lube oil formulation being analyzed. The results demonstrate excellent performance for analyzing basic lube oil formulations using the NEX QC analyzer. Optimized for quality control applications, the NEX QC features a 50kV X-ray tube for wide elemental coverage, a modern icon driven user interface, USB and Ethernet connections for data logging and storage, and optional Fundamental Parameters software enabling elemental quantification of unknown samples without standards. Fast and simple, the NEX QC analyzer is shown to be an ideal tool for monitoring and controlling lube oil additives and formulations during blending and process QC.

A copy of this report may be requested at:
<http://www.rigakuedxrf.com/edxrf/app-notes.html?id=1249> 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.

For further information, contact:

Scott Fess
Product Manager
Applied Rigaku Technologies, Inc.
tel: +1. 512-225-1796
info@RigakuEDXRF.com