

# MAKING ELEMENTAL ANALYSIS OF PETROCHEMICALS AS EASY AS 1-2-3

Today's analytical scientists face more challenges in elemental analysis regarding analytical performance, ease of use and cost of ownership than ever before. Often a single instrument has to provide full analytical flexibility and performance for all applications in industry, research and development, fulfilling future demands for higher product quality and decreasing limit values for regulated elements. Bruker AXS offers the WDXRF spectrometer S8 TIGER, with its innovative, optimized X-ray optics and user interface matching these needs.

## Beyond the Limits - Expanding the Analytical Performance of WDXRF with Novel Developments

While the S8 TIGER's new high-intensity X-ray tube excites the sample even more efficiently, the combination of the tube with the shortest beam path leads to the highest possible element sensitivities. Novel analyser crystals of the "XS" series significantly improve detection limits, precision and resolution for a number of elements and specific applications. The versatile beam path and wide selection of different crystals and collimators provide advanced analytical flexibility even for the most demanding applications.

The high analytical performance of the S8 TIGER WDXRF system is made even more powerful with leading-edge analytical software and its integrated analytical intelligence. A uniquely designed XRF expert system, actively guiding users in creating methods, checking performance criteria and running evaluations, enables even inexperienced users to achieve accurate, reliable analytical results.

XRF is a powerful elemental analysis technique which can



Fig. 1: PETRO-QUANT is the powerful analytical solution developed specifically for the petrochemical industry. <https://www.bruker.com/petro-quant>



Fig. 2: S8 TIGER for petrochemical applications such as ASTM D 2622. <https://www.bruker.com/s8tiger>

analyze samples directly without digestions or dilutions. With a dynamic range from sub ppm to 100% XRF is unique as analytical technique. Quick turnaround time, ease of use and cost effective analysis is a major concern for producers and users of petrochemicals such as gasoline, oil, fuel and polymers as well as coke and coal.

Bruker AXS has developed a 30 element analyzing method which is implemented in the PETRO-QUANT solution for XRF. Additionally important ISO and ASTM methods are predefined to allow quick implementation in the field. The expert can also use all library settings to implement own methods as well as to mix precalibrated methods with custom standard based methods.

## PETRO-QUANT: The cost-effective turnkey solution for all petrochemical application

With PETRO-QUANT, the precalibrated solution of Bruker AXS for wavelength dispersive XRF systems, users can analyze 30 elements quantitatively in all liquid petrochemicals in one method from ppm to % levels. It's possible to reduce the analysis cost and calibration cost dramatically compared to other XRF and elemental analysis techniques by using the turnkey solution.



Fig. 3: Easy start of routine measurements with the S8 TIGER TouchControl