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Yes, send us more information please!

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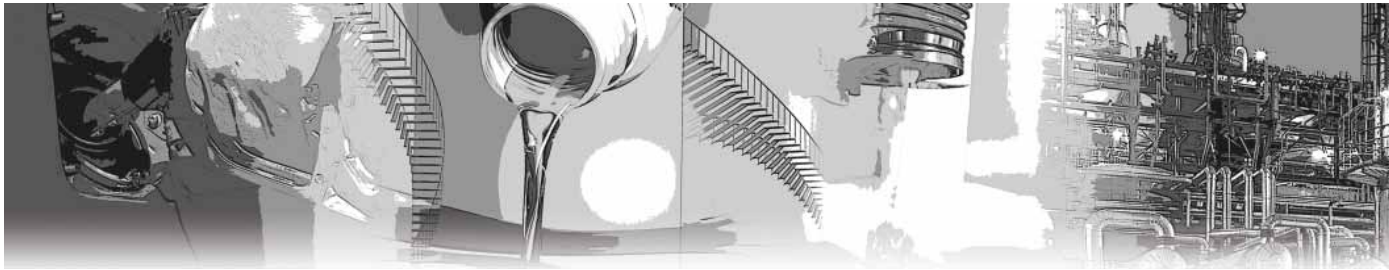
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BRUKER ADVANCED X-RAY SOLUTIONS



# PETRO-QUANT SOLUTIONS FOR THE PETROCHEMICAL INDUSTRY





# PETRO-QUANT

## Tailored for your elemental analysis applications

The PETRO-QUANT solutions make the analysis of petrochemical samples as easy as possible. The operator just pours the liquid sample into a cup, selects the measurement method and starts the analysis.

PETRO-QUANT utilizes the WDXRF spectrometers, the S4 EXPLORER or S4 PIONEER, with an optimized configuration for the analysis of petrochemical products:

- easy to use software
- excellent accuracy and precision
- minimized He consumption
- safe handling of liquids

For general analysis a universal pre-calibration (Oil-Quant) is used. It allows the analysis of 26 elements with standard errors in the lowest ppm-range.

For compliance with international norms such as ASTM, DIN or EN ISO, samples must be analyzed against norm specific calibrations. Bruker AXS will provide fully pre-calibrated analyzers matching the needs of your laboratory. You select the norms and we setup the specific calibrations.

After on-site installation, the spectrometers will perform routine analysis right from the start.

### Application examples with PETRO-QUANT

- various elements in all kind of petroleum products
- determination of sulfur in different products
- wear metals, additives, and stabilizers in lube oils
- pet coke
- greases
- polymers

Fill sample into liquid cup



Put samples on the autosampler, type in name, select method, and start measurement

Pos	Sample	Method
1A1	PetroSample	DIN51363
1A2		DIN51363
1A3		DIN51391Ca
1A4		DIN51391Zn
1B1		DIN51431
1B2		ISO14596high
1B3		ISO14596low
1B4		ISO20884high
1C1		ASTM2622
1C2		Oilquant2
1C3		
1C4		

Print out results

Results Monitor:	
Sample	Oil 30 ppm
Date	Oct 5, 2004
Calibration Method	Oil-Quant-2
S (ppm)	34
CL (ppm)	32
Cl (ppm)	27
K (ppm)	30.6
Zr (ppm)	28
Sb (ppm)	

### Analytical Performance of OilQuant

This table shows the excellent precision of OilQuant for selected elements for low concentrations.

Sample	Mg (ppm)	Al (ppm)	Ca (ppm)	Fe (ppm)	Zn (ppm)	Mo (ppm)	Pb (ppm)
1	5.1	5.1	4.0	5.3	5.2	4.9	4.9
2	6.2	3.6	5.8	6.0	5.3	3.5	4.4
3	7.8	5.2	3.3	4.6	5.1	4.5	3.8
4	6.4	3.6	3.6	4.5	4.7	5.2	4.7
5	6.7	4.8	4.1	4.8	4.7	2.6	5.1
6	6.3	5.2	5.4	5.0	5.3	5.7	4.7
7	6.7	4.3	4.2	5.0	4.9	2.9	4.9
8	6.0	3.9	4.1	4.7	5.0	3.9	4.9
9	8.2	5.3	5.1	5.6	5.0	4.5	4.6
10	8.1	3.2	5.3	5.5	4.6	4.3	4.5
Mean	6.8	4.4	4.5	5.1	5.0	4.2	4.7
Std Dev	1.0	0.8	0.8	0.5	0.3	1.0	0.4

### Analytical performance via calibration

Low S calibration with the S4 PIONEER

Conc. (ppm)	Conc. XRF (ppm)	Absolute Deviation	Count.Stat. Deviation	LOD* (ppm)
0.0	0.0	0.0	0.2	0.6
5.0	4.9	-0.1	0.3	0.6
10.0	10.1	0.1	0.3	0.6
25.0	25.0	0.0	0.3	0.6
50.0	50.0	0.0	0.3	0.6

### Repeatability of Low S Concentration Measurements

Average Concentration	7.3 ppm
Mean Abs. Std. Dev.	0.5 ppm
Minimum	6.6 ppm
Maximum	8.2 ppm
Range	1.6 ppm