

Event Abstract

90-48 The Expert Gas Chromatographic System for Determination of Petrol Components and the Basic Inspected Parameters

Event Type: Sunday Posters

Presenter: Siarhei Charapitsa - Belarus State University

Part of: New Developments in Analytical Instrumentation and Software

Start Time: 03/09/2003 - Afternoon

Location: Valenica Ballroom

Abstract: The expert gas chromatographic system UniChrom-Petrol for the detailed hydrocarbon analysis (DHA) of various petroleum fractions and products has been developed. Mole, mass and volume percents are computed and reported for all components. Then all the basic inspected parameters are calculated using obtained DHA data by UniChrom-Petrol software package.

As the result of single chromatographic petrol sample analysis (about 70 min) it is possible to determine the following characteristics:

- Detailed hydrocarbon and fractions contents (conforms ASTM D5134, GOST 6994 and ASTM D5580, GOST 8997 and GOST 2070),
- Detonation stability expressed in terms of research octane number RON (conforms GOST 8226 and ASTM 2699),
- Detonation stability expressed in terms of motor octane number MON (conforms GOST 511 and ASTM 2700),
- Saturated vapor pressure (conforms GOST 1756-52 and ASTM 2889),
- Boiling range for petrol and diesel fuels (conforms GOST 2177 and ASTM D86),
- Cetane number for diesel fuels (conforms GOST 3122, ASTM D613 and ASTM 4737),
- Flash point for diesel fuels (conforms GOST 6356, ASTM D93 and ISO 2719),
- Density for petrol and diesel fuels (conforms to GOST 3900 and ASTM 4052).

The high reproducibility and the reliability of the developed system UniChrom-Petrol in the Central Laboratories of the Mozyr and Novopolotsk Oil Refinery (Belarus), in the State Criminal Center of the Home Office of Belarus has been achieved. The method is certified at the State Metrology Committee of Belarus by national standard STB 1287-2001.

Additional information could be found at the site www.unichrom.com

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