

DATA BULLETIN

Low ppm level determination of nitrogen in lubricants

Nitrogen concentration is an important parameter in the quality control of lubricants. Moreover, the correct mixture of certain additives can be reliably checked through monitoring of nitrogen concentrations in the final product. As nitrogen concentrations in the final product are often in the lower ppm range, special technological solutions are required. UNICUBE® trace uses an improved sample purging mechanism and a selected detector to push the limits of nitrogen determination.

Different lubricants and additives were pipetted into tin capsules, sealed with a capsule sealing press, weighed and finally placed on the solid autosampler of the UNICUBE trace. Inclusion of ambient air was prevented by purging the capsule with oxygen before sealing.

SAMPLE	N [ppm]	SD [ppm]	RSD [%]
Lubricant A	1076	11	1.0
Lubricant B	1104	12	1.1
Lubricant C	2161	4	0.2
Additive A	15747	25	0.2
Additive B	20990	36	0.2

The UNICUBE trace demonstrates impressive reproducibility in the analysis of lubricants. This is possible thanks to an improved purging mechanism which drastically reduces nitrogen blanks from ambient air, as well as a highly sensitive thermal conductivity (TCD) detector with extraordinary baseline stability.

These features combined with robust instrument design, tool-free maintenance, extraordinary instrument uptime and lowest noise emission in the industry – to offer to you nothing less than the best solution for your nitrogen concentration analysis.

INSTRUMENT:
UNICUBE® trace

DETAILS:
mode: N
sample: 10–15 mg lubricants



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