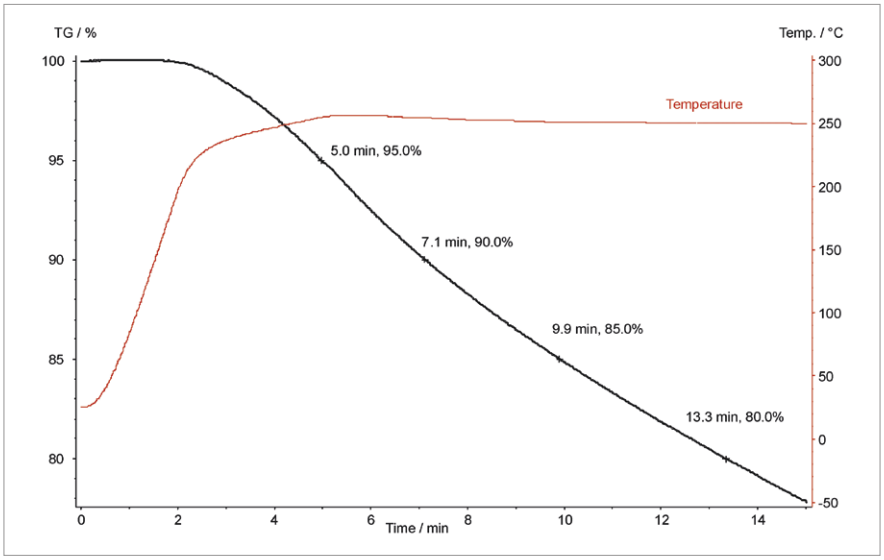
APPLICATION**SHEET**

ORGANICS – CHEMICAL INDUSTRY

LUBRICANT

Lubricants, especially oils for Otto, Diesel or Jet engines, are exposed to elevated temperatures in inert and oxidizing atmospheres during use. They may suffer losses by evaporation, loss or alteration due to cracking or oxidation. Additives are used to inhibit or reduce these reactions. DIN ("Noack test") and ASTM norm procedures are available for the measurement of evaporation tests. There is some interest to replace the "Noack test" by TG measurements.



Instrument

TG 209 ***F1*** *Iris*®

Test Conditions

Temperature range	RT ... 250°C
Heating rates	100 K/min, 10 K/min
	isothermal at 250°C
Atmosphere	Air at 30 ml/min
Sample mass	20 mg
Crucible	Alumina
Sensor	Platinel

Results

The mass-loss behavior of lubricants can be measured by thermogravimetry at isothermal temperatures. Comparing the results of different lubricant/additive mixtures yields information about the thermal stability of the lubricant in an oxidizing or inert gas atmosphere. Systematic comparisons of the TG results with the "Noack method" could maybe prove that thermogravimetry is faster and more reliable.

NGB · AS · 055-2006 · EN · 06/13 · Technical specifications are subject to change.

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