

APPLICATION SHEET

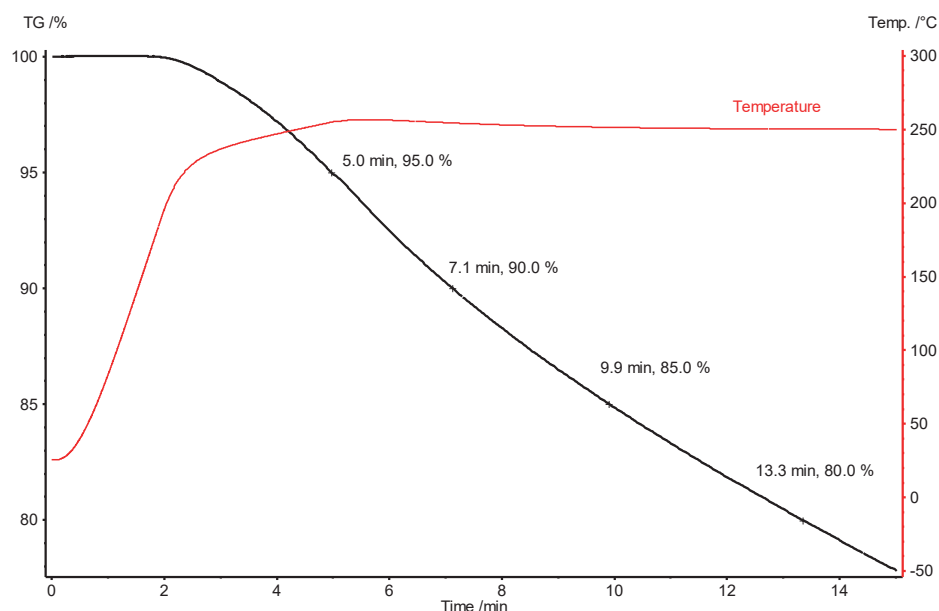
Organics · Chemical Industry
TG 209 **F1 Libra**®

Lubricant

Introduction

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.

DIN and ASTM standard procedures are available for the conduction of evaporation tests. This so-called Noack test can also be carried out using thermogravimetry. The method is described in ASTM D-6375-09 (Standard Test Method for Evaporation Loss of Lubricating Oils by a Thermogravimetric Analyzer (TGA) Noack Method).



Test Conditions

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

Test Results

The mass-loss behavior of lubricants can be measured by thermogravimetry at isothermal temperatures. Comparing the results for different lubricant/additive mixtures yields information about the thermal stability of the lubricant in an oxidizing or inert gas atmosphere.