

# KF Application Note No. K- 13

**Title:** Water in organic peroxides

**Summary:** The water content of organic peroxides is determined according to Karl Fischer using two-component reagents. To prevent any unwanted side reactions the determinations are carried out at -20 °C.

**Sample:** tert.-Butyl hydroperoxide  
Methyl ethyl ketone peroxide

**Sample Preparation:** none

**Instruments and Accessories:** 701 KF Titrino or 720 KFS Titrino, 703 Titration Stand, printer, low temperature circulation system

**Analysis:** Wait for a steady drift below 6 ug/min at a temperature of -20 °C. Inject ca. 300 mg sample into the titration vessel using a dry 1 mL glass syringe (the exact sample mass is determined by difference weighing) and start the automatic determination (triplicate determination).

**Reagents:**

Solvent: Hydranal Solvent (Riedel-de Haën)

Titrant: Hydranal Titrant 5 (Riedel-de Haën)

**Results:** tert.-Butyl hydroperoxide: AVG(3) = 5.51 +/- 0.08 % water  
Methyl ethyl ketone peroxide: AVG(3) = 1.69 +/- 0.02 % water

**Settings:** 701 KF Titrino

- >titration parameters
  - extr.time 0 s
  - stop crit.: drift
  - stop drift 20 uL/min
- >preselections
  - conditioning: on
  - req.smpl size: on
  - report: full