

KF Application Note No. K- 1

Title: Water in potassium chlorate (KClO₃)

Summary: The water content of potassium chlorate is determined according to Karl Fischer using the oven method (300 °C).

Sample: KClO₃

Sample Preparation: none

Instruments and Accessories: 701 KF Titrino or 720 KFS Titrino, 703 Titration Stand, 707 KF Drying Oven, printer

Analysis: Dry the sample boats in an oven at 200 °C for 30 min and then allow them to cool in a desiccator.
Heat the 707 KF Drying Oven to 300 °C and set the flow rate of the air stream to 100 mL/min. Thorough conditioning of the titration cell is a prerequisite for correct analyses. Weigh exactly ca. 1 g sample into a dry sample boat. Start the determination with the «start» button on the 707. During the purge time put the sample boat into the cold compartment of the oven and close the oven tube. After the purge time the sample boat is automatically transported into the hot oven compartment.
The blank of the sample boats is determined in the same way.

Reagents:
Solvent: 20 mL methanol/formamide 2:1
Titrant: Hydranal Composite 2 (Riedel-de Haën)

Results: AVG(3) = 0.033 +/- 0.0015 % water

Settings:	707 KF Oven	701 KF Titrino
	temperature 300 °C	>titration parameters
	unit gas flow: mL/min	extr.time 180 s
	min.gas flow 70 mL/min	stop crit.: drift
	gas type: air	stop drift 20 uL/min
	purge time 15 s	>preselections
	cond.time 0 s	req.smpl size: on
		report: full