

KF Application Note No. K- 4

Title: Water in lyophilisates (e.g. vaccines in vials)

Summary: The water content of lyophilisates contained in vials is determined according to Karl Fischer. Conditioned solvent (methanol) is injected into the vial to dissolve the sample and extract the water (ultrasonic bath). Afterwards the contents of the vial are transferred to the titration vessel to carry out the automatic determination.

Sample: Three different lyophilised vaccines in vials

Sample Preparation: none

Instruments and Accessories: 701 KF Titrino or 720 KFS Titrino, 703 Titration Stand, printer, ultrasonic bath

Analysis: Pour 25 mL methanol into the titration vessel and start conditioning. When the solution has been conditioned take out 10 mL with a syringe and inject 5 mL of this solution through the septum into the vial. Dissolve the sample by putting the vial into the ultrasonic bath. Transfer the contents of the vial to the titration vessel using a syringe and start the automatic titration.

Reagents:

Solvent: methanol (dry)

Titrant: Hydranal Composite 2 (Riedel-de Haën)

Results: With the described procedure the total water content of a vial is determined. To calculate the water content of the product alone one has to know the sample size.

Settings: 701 KF Titrino

>titration parameters

extr.time	0 s
stop crit.:	drift
stop drift	20 uL/min

>preselections

conditioning:	on
report:	full