

Application

TitroLine alpha *plus*
TitroLine *KF*

**Determination of Water
according to KF in
Potassium nitrate (free
and bounded)**

SCHOTT
Instruments

USE

Determination of water in Potassium nitrate according to Karl-Fischer. Using different solvent mixtures it is possible to distinguish the free and chemical bounded water.

APPLIANCES

TitroLine alpha KF- plus Module,
Titroline KF

ELECTRODES

Electrode: KF 1100

CHEMICALS

Solvent: (free water)	dried methanol/Composlver or solvent for 2 component systems and Chloroform. (5/20)
Solvent (total water)	mixture of dried methanol/Composolver or solvent for 2 component systems and Formamide dry. (20/10)
Titrant:	single component or two component reagent (1 ml = approx 2 mg H ₂ O)

DESCRIPTION

Free water:

For the determination of the "free" water a solvent mixture is necessary witch not dissolve the sample. With a mixture of methanole or as an alternative to methanole a Composolvent (5 ml) with Chloroform (20 ml) is that possible. A short extraction time and a short endpoint delay is recommended.

Total (free and bounded) water:

For the determination of the total water a solvent mixture is necessary witch dissolve the sample completely. With a mixture of methanole or as an alternative to methanole a Composolvent (20 ml) with Formamide (10 ml) is that normally possible. A long extraction time is necessary. The bounded water (cristal water) can be calculated if you substract the content of free water.

The solvent is added with the pump. Select the method. Subsequently, the KF method is started on the TitroLine alpha plus or TitroLine KF, and the solvent is automatically conditioned. Press <ENTER> or <START> and insert the sample ID. Press again <ENTER>.

Weigh appr. 1 g of the sample in a glass weighing funnel. Press the tara button. Remove the septum and put the standard into the vessel. The glass funnel is then placed again on the balance. Read the absolute weight from the balance display. Press the print button of the balance if the balance is connected to the Titrator or use the keyboard to insert the weight into the TL alpha plus/TitroLine KF. Confirm with <ENTER>.. The TL alpha plus/TitroLine KF starts now automatically the titration.

Electrode handling

You can store the double platinum electrodes wet (in the titration vessel) or dry.

NOTES

If you should have further questions with respect to the application, please contact the Application Department of Schott-Geräte; tel.: **+49 6131 66 -5118 or -5062**

LITERATURE

Also refer to:

Hydranal®-Workshop - Water Reagents according to Eugen Scholz for Karl-Fischer titration, Riedel-de-Haën.

Water determination by Karl-Fischer titration, Theory and Practice, G. Wieland, GIT Publishers.

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