



Item Number 112939 Lactose Standard 5%

Certified Reference Material for
Karl Fischer Titration Aquastar®

The Aquastar® lactose standard is a solid standard with a water content of about 5%. The batch specific certificate of analysis states the exact value measured by direct coulometric titration of the respective batch.

The Aquastar® lactose standard can be applied universally. It is easily soluble in methanol and is supplied as a solid standard for coulometric and volumetric Karl Fischer titrations.

It is especially suitable if the working medium used consists of solvent mixtures in which disodium tartrate-dihydrate is only slightly soluble. It is also suitable as a standard for the Karl Fischer oven technique.



Handling recommendations:

Volumetric Titration:

Titration parameters:

Titration: Default titration settings (refer your instrument manual (refer to your instrument manual))

Stirring time: 180 seconds

Weigh in quantity: 0.1 g–0.3 g

Procedure:

The titration medium (50 mL) is placed into the cell and titrated dry by means of the titrant. The Aquastar® lactose standard 5% is added from a weighing boat (exact sample weight determination by weighing of weighing boat before and after the addition) and the titration is started.

Coulometric Titration:

Titration parameters:

Titration: Default titration settings (according to instrument manufacturer)

Stirring time: 180 seconds

Weigh in quantity: approx. 75 mg

Procedure:

The titration medium (100 mL) is placed into the cell and titrated dry. The Aquastar® lactose standard 5% is added from a weighing boat (exact sample weight determination by weighing of weighing boat before and after the addition) and the titration is started.

KF oven technique:

The KF oven technique can be applied in combination with volumetric or coulometric KF titration. The sample is heated to the chosen extraction temperature and the released water is transferred by a dry air or nitrogen gas stream into the titration vessel.

Titration parameters:

Titration: Default titration settings (according to instrument manufacturer)

Extraction time: min 300 seconds

Extraction temperature: 140–160° C

Weigh in quantity: approx. 75 mg (Coulometry)
approx. 250 mg (Volumetry)

Procedure:

The titration medium (150 mL for coulometric titration / 50 mL for volumetric titration) is placed into the cell and titrated dry. The series of measurements is started by determining the blank value for the sample vials. The sample is weighed and transferred to a small sample vial, which is capped tightly immediately afterwards. The vial is either manually or automatically placed into the KF oven and heated according to the chosen temperature program. The water hereby released is transferred to the titration vessel and coulometrically or volumetrically analyzed.

Note:

Since the variability of the obtained results by the indirect oven technique is generally higher in comparison to the direct volumetric / coulometric methods, we recommend accepting a deviation of 0,2 % (absolute) from the certified batch-specific water content.

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