Supelco®
Analytical Products

Technical Data Sheet

Item number: 1.09058
Hydrochloric acid volumetric solution

according to Reag. USP

Manufacturer:

- Merck KGaA, Frankfurter Str. 250, 64293 Darmstadt, Germany, Tel. +49(0)6151 720

Technical data:

- Concentration: 0.5 mol/L
- Density: 1.015 kg/L
- Packaging: 4 L Titripac
- Shelf life: 3 Years

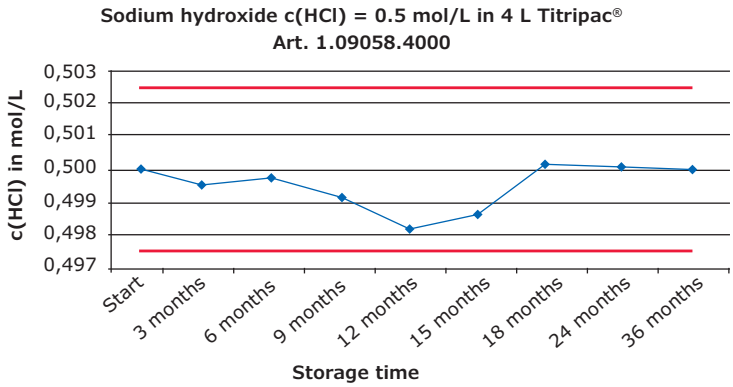
Stability of hydrochloric acid volumetric solution (item number: 1.09058) in a Titripac®:

Volumetric solutions contain reagents that react quantitatively with the substance to be measured in the sample solution. The concentration of the volumetric solution is indicated by the molarity (mol reagent per l solvent). For the optimal consumption per titration the concentration of the volumetric solution should be chosen according to the expected concentration of the sample. A standardization (titer determination) with a volumetric standard is recommended to correct for all influences on the measurement results arising from lab conditions, equipment and handling.

To demonstrate the stability of this hydrochloric acid volumetric solution the Titripac® was tested under daily routine conditions.

In regular intervals the concentration of the hydrochloric acid solution was determined with certified reference material TRIS(hydroxymethyl)aminomethane (volumetric standard item number 1.02408).

The following diagrams show the measured concentration of hydrochloric acid solution (item number 1.09058) in a Titripac® 4 L over the time of 36 months.



Ordering Information:

Hydrochloric acid

Ordering Number:

1.09058.4000 (4 L Titripac®)

The life science business of Merck operates as MilliporeSigma in the U.S. and Canada.

The diagram on page 1 shows the concentration of hydrochloric acid volumetric solution 0.5 mol/L in between the range of 0.4975 mol/L and 0.5025 mol/L over the time of three years.

The solution is stable in the Titripac® 4 L.

The calculation of the concentration is done according to the following equation:

$$C(X)_{\text{actual value}} = C(X)_{\text{indicated value}} .t$$

c(x) indicated value = concentration as specified by the supplier

t = titer of the volumetric solution

c(x) actual value = concentration after correction for the titer

The titer as correction factor depends on lab conditions, equipment and handling.

The titer determination is carried out with volumetric standards or with standard solutions standardised directly against volumetric standards.

Volumetric solutions are temperature sensitive. Therefore, the titer changes with the temperature. Thus it is recommended to do the titer determination at the same temperature as the following sample titration.

The titer determination of a volumetric solution is essential for precise sample measurements. Errors due to titer determination affect the following measurements as systematic deviation.

Instructions for use of a Titripac®:

Open the Titripac® by pressing on the precutted area.

(Do not use a knife for opening because you can easily damage the inner bag of the Titripac®.)

Take the installed tap out of the box and fix it by closing the precutted area.

By opening the tap, solution can be withdrawn without the risk of contamination.

Finally the Titripac® can be connected directly to the titrator by means of a small adapter and a hose with a thread on both sides.

Hose and adapter can be ordered under item number 1.88075.0001

To place an order or receive technical assistance

In the U.S. and Canada, call toll-free
1(800)-645-5476

For other countries across Europe, call
+44 (0) 115 943 0840

For other countries across Europe and the world, please visit:
MerckMillipore.com/offices

For Technical Service visit: **MerckMillipore.com/techservice**

MerckMillipore.com

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