Supelco®
Analytical Products

Technical Data Sheet

# Item number: 1.09072
# Sulfuric acid volumetric solution

according to Reag. Ph. Eur. and Reag. USP

**Manufacturer:**

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

**Technical data:**

- Concentration: 0.5 mol/L
- Density: 1.03 kg/L
- Packaging: 4 L Titripac® and 10 L Titripac®
- Shelf life: 3 Years

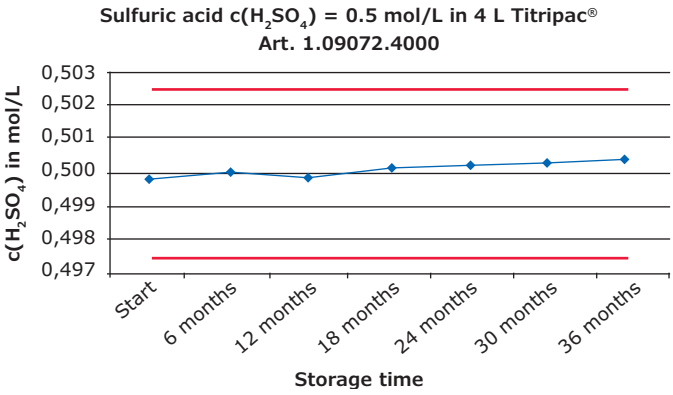
## Stability of sulfuric acid volumetric solution (item number: 1.09072) in a Titripac®:

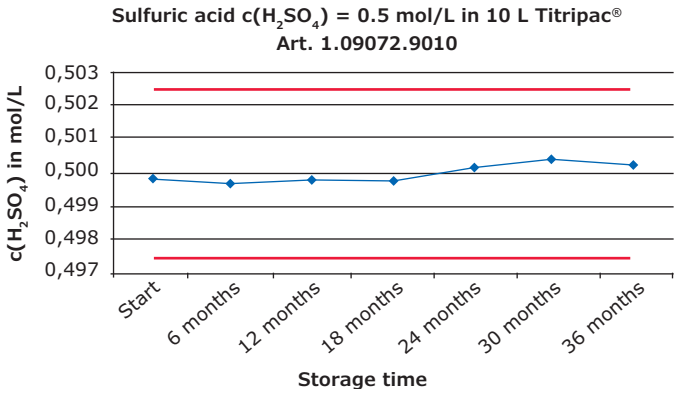
Volumetric solutions contain reagents that react quantitatively with the substance to be measured in the sample solution. The concentration of the volumetric solution is indicated by the molarity (mol reagent per l solvent). For the optimal consumption per titration the concentration of the volumetric 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 sulfuric acid volumetric solution the Titripac® was tested under daily routine conditions.

In regular intervals the concentration of the sulfuric 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 sulfuric acid solution (item number 1.09072) in a Titripac® 4 L and 10 L over the shelf life of 36 months.




**Ordering Information:**

Sulfuric acid
Sulfuric acid

**Ordering Number:**

1.09072.4000 (4 L Titripac®)
1.09072.9010 (10 L Titripac®)

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

The diagrams on page 1 show the concentration of sulfuric acid volumetric solution 0.5 mol/L in between the range of 0,4975 mol/L and 0,5025 mol/L over the shelf life of three years.

The solution is stable in both packages (Titripac® 4 L and 10 L).

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

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

*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 calibrated 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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