

Titripur[®]

The measure of all things

Volumetric solutions



Volumetric solutions

Titripur[®] | Titripac[®] | Titrisol[®] | Titriplex[®]

Sophisticated and precise analyses require precisely adjusted, certified volumetric solutions. Whether you're titrating reducing or oxidizing substances, acids, bases or complexing reagents in either aqueous or non-aqueous solutions: Merck Millipore offers the right solutions for every application.

www.merckmillipore.com/titration

Volumetric solutions

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- Certified and consistently high level of quality
- Innovative and optimum packaging systems
- Reliable and precise analyses
- Measured in a DIN EN ISO / IEC 17025 accredited laboratory

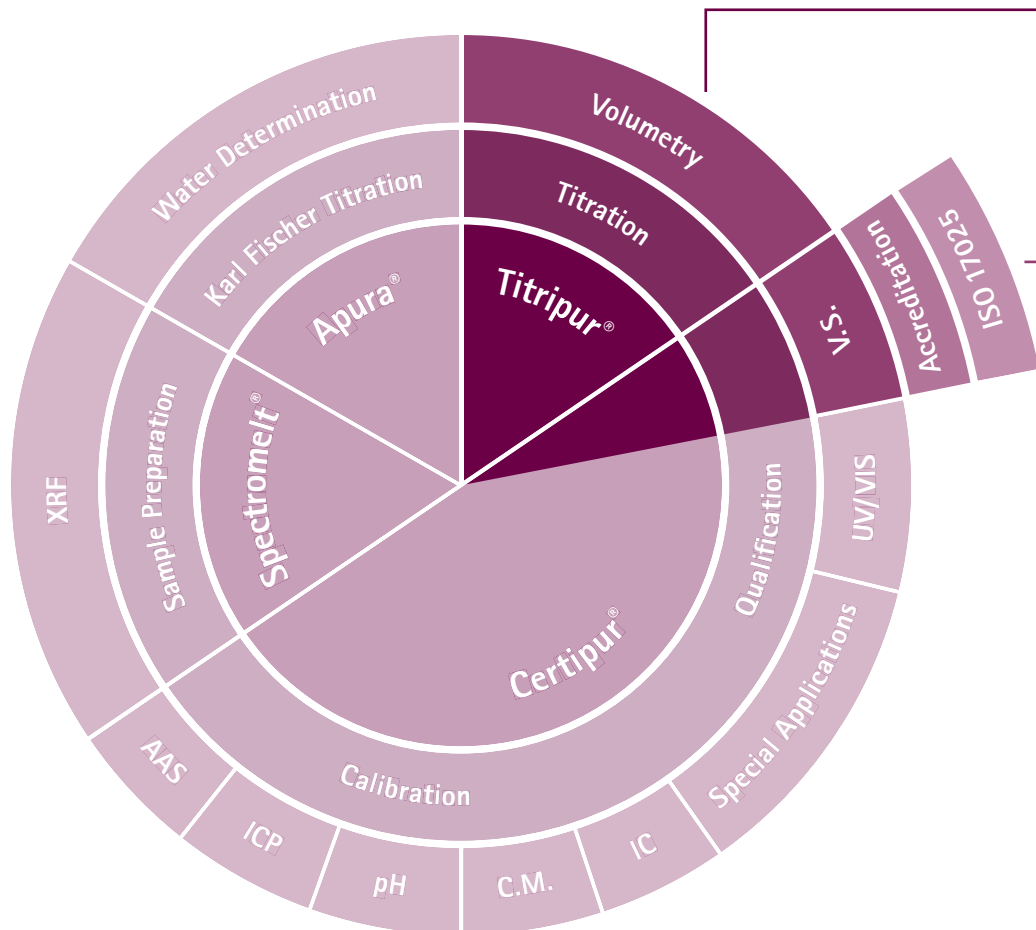


www.merckmillipore.com/titration

Titripur® – our quality standard in titration

Titripur® – precision and quality

Like all Merck Millipore products, Titripur® volumetric solutions are subject to stringent manufacturing and testing requirements. From the selection of the raw materials and packaging on up to quality control, the highest demands are placed on purity and quality. All Titripur® volumetric solutions are measured in our DIN EN ISO / IEC 17025 accredited laboratory.



Specification / Traceability

NIST	National Institute of Standards and Technology, Gaithersburg, Maryland, USA
Reag. Ph Eur	Reagents specified by the European Pharmacopoeia
USP	United States Pharmacopoeia requirements for reagents

Titripur® quality for your individual needs

Titripur® | Volumetric solutions

Under the brand name Titripur®, Merck Millipore offers you first-rate volumetric solutions. Volumetric solution described in the European and the US Pharmacopoeia are in accordance with the reagents chapter of the Pharmacopoeia. For each solution, titer determination is performed under optimum and standardized conditions. All volumetric solutions are traceable to certified secondary reference materials, which in turn are directly traceable to standard reference materials from the NIST. Consequently, all volumetric solutions from Merck Millipore are traceable to NIST standard reference material and measured in our DIN EN ISO / IEC 17025 accredited laboratory.

Certipur® | Volumetric standard [V.S.]

Volumetric standards are used for the standardization – titer determination – of volumetric solutions and for the qualification of the titration system. Influencing factors such as temperature, instrument variances, different methods of handling, weighing errors etc. and the volumetric solution itself can impact the titration result. To compensate for these factors, titer determination under working conditions is necessary in the respective laboratory. Merck Millipore is in the scope of the DIN EN ISO / IEC 17025 accreditation for mass fraction of titrimetric standards. Secondary standard reference materials for titration are traceable to standard reference material from NIST.

Titripur[®] – for reliable quality all the time

The standard for precise titration results

With the Titripur[®] grade,
you can be sure that your analyses always
meet the highest demands.



**That's Merck Millipore:
Quality assurance throughout the entire
manufacturing and quality control process**

The manufacturing and quality control process for Titripur[®] solutions meets the highest standards. The Certificate of Analysis contains all the information important for quality management documentation. Furthermore, it includes information on traceability and data on the NIST batch used for standardization. Additionally it gives the information about the measurement in the ISO 17025 accredited laboratory.

Titripur® – volumetric solutions in accordance with the reagents part of European and US pharmacopoeias

The Titripur® line also includes volumetric solutions that are used specifically for analytical purposes in the pharmaceutical industry and correspond to the European and US Pharmacopoeia for analytical applications. For available solutions, this is indicated in the certificate.

Titripur® – volumetric solutions made from raw materials in accordance with Ph Eur

The Titripur® line also includes volumetric solutions made from raw materials in accordance with the European Pharmacopoeia. The relevant information can be found in the certificate.

Titriplex® – for complexometric titration

For chelate ligands, Merck Millipore offers the well known Titriplex® brand to determine metal ions by complexometric titration. In addition to solid substances, ready-to-use solutions are also available in PE bottles and Titripac®.



Innovative packaging – optimized for every application

In order to ensure high product quality, packaging is needed to protect the solution from impurities and contamination. Merck Millipore therefore offers a wide range of high-quality packaging options for volumetric solutions and only uses glass and plastic grades that do not alter any of the product's characteristics. All our packaging materials have been tested for their quality and atmospheric permeability, thereby ensuring the purity of the solutions, also during storage up to their minimum shelf life for sealed, original containers.

Titrisol® – concentrates for greater flexibility

For users who regularly perform different types of analyses, we also offer most volumetric solutions as Titrisol® concentrates.

Every ampoule contains a precisely defined quantity of substance that is normally filled to a final volume of 1 liter. However, any other concentrations can be produced by diluting correspondingly.



Titrisol® advantages

- Space-saving
- Flexible and easy to use
- Individual concentrations can be prepared



Titripur® – ready-to-use solutions reliable and precise

Merck Millipore offers ready-to-use volumetric solutions for daily laboratory analyses. These can be connected directly to a titrator via an adapter.

Depending on the amount required, volumetric solutions are available in 0.5 l, 1 l, 2.5 l, 5 l, 10 l and 25 l PE bottles or canisters. In addition, volumetric solutions, such as acetic acid, which cannot be stored in a stable manner for an extended period of time in PE containers, are available in 1 l and 2.5 l glass bottles.

Merck Millipore also offers Titripur® grade ready-to-use solutions in 4 and 10 liter Titripac®.

Polyethylene bottles and canisters

- Pack diversity for every different requirement
- Unbreakable and contamination-free material
- Direct connection to the titrator is possible
- The stability of the solution is ensured for the entire shelf life

Glass bottles

- Ensuring the stability of special volumetric solutions

Titripac® – the innovative packaging solution that saves costs and time

Titripac® – reliable solution from the first to the last drop

Titripac® from Merck Millipore is an innovative and safe packaging option for high-quality, ready-to-use volumetric solutions. Its economical and ecological advantages enable you to optimize your working processes. The consistent quality of a volumetric solution is ensured from the first to the last drop. A hermetically sealed package system makes this possible. Contamination caused by air, carbon dioxide or microorganisms is excluded.

Titripac® saves you the trouble of time-consuming process of checking the solutions as well as the cost-intensive disposal of contaminated residual amounts. The carton can simply be disposed of together with paper and the internal liner can be easily folded together prior to disposal.

Titripac® is extremely easy to use. The integrated spout appears simply by pressing on the pack. By opening the tap, liquid can be withdrawn at any time – conveniently and without the risk of contamination. In addition, Titripac® can be connected directly to the titrator via an adapter.



Titripac® is available in 4 liter and 10 liter sizes.



Exclusively from Merck Millipore: Internal liner and external carton can be easily disposed of separately.

Titripac® advantages

- No contamination: Hermetically sealed pack
- Easy to use: Integrated withdrawal tap, direct connection to a titrator is possible
- Saves costs and time: No unnecessary titer determinations, no contaminated residual amounts
- Environmentally friendly disposal: Reduced package waste, as carton and internal liner can be disposed of separately



Precise analyses require precisely adjusted volumetric solutions. With Titripac® you can be sure that you've got a consistent solution up to the very last drop. A direct connection to the titrator via an adaptor makes lab work easier and helps to avoid contamination.

Ordering information Titripur® volumetric solutions

Product	Concentration	Titrisol® Ampoules for 1 l solution Ord. No.	Ready-to-use solutions	
			Glass bottles, PE bottles/canisters Ord. No.	Titripac® Ord. No.
A Acetic acid	0.1 mol/l (0.1 N)	1.09944.0001	–	–
	1 mol/l (1 N)	1.09951.0001	–	–
	1 mol/l (1 N) prepared from raw materials acc. to Ph Eur	–	25 l: 1.99061.9025	–
Ammonium cer(IV)nitrate solution	0.1 mol/l (0.1 N)	–	1 l: 1.02277.1000 ¹	–
Ammonium iron(II) sulfate solution	0.1 mol/l (0.1 N)	1.09864.0001	–	–
Ammonium thiocyanate solution	0.1 mol/l (0.1 N)	1.09900.0001	1 l: 1.09079.1000 ^{1,2}	–
B Barium chloride solution	0.05 mol/l (0.1 N)	1.09962.0001	–	–
Barium perchlorate solution	0.005 mol/l in 2-propanol/ water (80 : 20)	–	1 l: 1.09086.1000 ²	–
Bromide bromate solution	0.05 mol/l (0.1 N)	1.09905.0001	–	–
C Cer (IV) sulfate solution	0.1 mol/l (0.1 N)	–	1 l: 1.09092.1000 ^{1,2}	–
Copper sulfate solution	0.1 mol/l	–	1 l: 1.02784.1000	–
Copper-di-ammonium Titriplex® solution	0.1 mol/l	–	0.5 l: 1.05217.0500	–
H Hanus solution (Iodomobromide solution)	0.1 mol/l in acetic acid	–	1 l: 1.09164.1000	–
Hyamine, 1622 solution for the determination of anionic tensides	0.004 mol/l	–	1 l: 1.15480.1000	–
Hydrochloric acid	0.01 mol/l (0.01 N)	1.09974.0001	–	–
	0.1 mol/l	1.09973.0001	1 l: 1.09060.1000 ^{1,2} 5 l: 1.09060.5000 ^{1,2} 25 l: 1.09060.9025 ^{1,2}	4 l: 1.09060.4000 ^{1,2} 10 l: 1.09060.9010 ^{1,2}
	0.1 mol/l (0.1 N) in 2-propanol	–	1 l: 1.00326.1000	–
	0.357 mol/l (1/2.8 N)	–	–	10 l: 1.13136.9010
	0.5 mol/l (0.5 N)	1.09971.0001	1 l: 1.09058.1000 ^{1,2} 5 l: 1.09058.5000 ^{1,2} 25 l: 1.09058.9025 ^{1,2}	4 l: 1.09058.4000 ^{1,2}
	1 mol/l (1 N)	1.09970.0001	1 l: 1.09057.1000 ^{1,2} 2.5 l: 1.09057.2500 ^{1,2} 5 l: 1.09057.5000 ^{1,2} 25 l: 1.09057.9025 ^{1,2}	4 l: 1.09057.4000 ^{1,2} 10 l: 1.09057.9010 ^{1,2}
	1 mol/l (1 N) prepared from raw materials acc. to Ph Eur	–	25 l: 1.99070.9025	–
	2 mol/l (2 N)	–	1 l: 1.09063.1000 25 l: 1.09063.9025	–
	3.571 mol/l (1/0.28 N)	–	–	10 l: 1.13134.9010
	5 mol/l (5 N)	–	1 l: 1.09911.1000	–
I Iodide-iodate solution	1/128 mol/l I 2 (1/64 N)	1.09914.0001	–	–
Iodine solution	0.05 mol/l (0.1 N)	1.09910.0001	1 l: 1.09099.1000 ^{1,2}	–
	0.5 mol/l (1 N)	–	1 l: 1.09098.1000 ¹	–
M Mercury(II)nitrate solution	0.05 mol/l (0.1 N)	–	1 l: 1.09143.1000 ²	–
N Nitric acid	0.1 mol/l	1.09964.0001	–	–
	1 mol/l (1 N)	1.09966.0001	–	–
	10 mol/l (10 N)	–	1 l: 1.00630.1000	–
O Oxalic acid solution	0.005 mol/l (0.01 N)	1.09932.0001	–	–
	0.05 mol/l (0.1 N)	1.09965.0001	–	–

1: Solution in accordance with the reagents chapter of Pharm. Eur (European Pharmacopoeia) | 2: Solution in accordance with the reagents chapter of USP (United States Pharmacopoeia)

Product	Concentration	Titrisol® Ampoules for 1 l solution Ord. No.	Ready-to-use solutions	
			Glass bottles, PE bottles/canisters Ord. No.	Titripac® Ord. No.
P Perchloric acid	0.1 mol/l (0.1 N) in water-free acetic acid	–	1 l: 1.09065.1000 ^{1,2}	–
Potassium bromate solution	1/60 mol/l (0.1 N)	1.09925.0001	–	–
Potassium dichromate solution	1/60 mol/l (0.1 N)	1.09928.0001	–	–
	1/24 mol/l (0.25 N)	–	1 l: 1.09118.1000	–
	0.020 mol/l	–	1 l: 1.09119.1000	–
Potassium hydroxide solution	0.1 mol/l (0.1 N)	1.09921.0001	1 l: 1.09112.1000 ¹	–
	0.1 mol/l (0.1 N) in ethanol	–	1 l: 1.09115.1000 ^{1,2} 2.5 l: 1.09115.2500 ^{1,2}	–
	0.1 mol/l (0.1 N) in methanol	–	1 l: 1.11587.1000	–
	0.1 mol/l (0.1 N) in 2-propanol	–	1 l: 1.05544.1000	–
	0.5 mol/l (0.5 N)	1.09919.0001	5 l: 1.11586.5000 ²	–
	0.5 mol/l (0.5 N) in ethanol	–	1 l: 1.09114.1000 ^{1,2} 2.5 l: 1.09114.2500 ^{1,2}	–
	0.5 mol/l (0.5 N) in methanol	–	1 l: 1.09351.1000	–
	1 mol/l (1 N)	1.09918.0001	1 l: 1.09108.1000 ^{1,2}	–
	1 mol/l (1 N) max. 0.4 ppm Ca	–	1 l: 1.09107.1000	–
	2.0 mol/l (2 N) in methanol	–	2.5 l: 1.11787.2500 ²	–
Potassium iodate solution	1/60 mol/l (0.1 N)	1.09917.0001	–	–
Potassium permanganate solution	0.002 mol/l (0.01 N)	1.09930.0001	–	–
	0.02 mol/l (0.1 N)	1.09935.0001	–	–
	0.02 mol/l (0.1 N) standardized with sodium thiosulfate	–	1 l: 1.09121.1000 ¹	–
	0.02 mol/l (0.1 N) standardized with oxalate	–	1 l: 1.09122.1000 ²	–
	0.05 mol/l (0.25 N)	–	2.5 l: 4.80160.2500	–
S Silver nitrate solution	0.05 mol/l (0.05 N)	–	1 l: 1.11718.1000	–
	0.1 mol/l (0.1 N)	1.09990.0001	1 l: 1.09081.1000 ^{1,2} 2.5 l: 1.09081.2500 ^{1,2}	4 l: 1.09081.4000 ^{1,2} 10 l: 1.09081.9010 ^{1,2}
	1 mol/l (1 N)	–	1 l: 1.09080.1000	–
Sodium arsenite solution	0.05 mol/l (0.1 N)	–	1 l: 1.06277.1000 ²	–
Sodium carbonate solution	0.05 mol/l (0.1 N)	1.09940.0001	–	–
Sodium chloride solution	0.1 mol/l (0.1 N)	1.09945.0001	–	–

1: Solution in accordance with the reagents chapter of Pharm. Eur (European Pharmacopoeia) | 2: Solution in accordance with the reagents chapter of USP (United States Pharmacopoeia)

Ordering information Titripur® volumetric solutions

Product	Concentration	Titrisol® Ampoules for 1 l solution Ord. No.	Ready-to-use solutions		
			Glass bottles, PE bottles/canisters Ord. No.	Titripac® Ord. No.	
S Sodium hydroxide solution	0.005 mol/l (0.005 N) in methanol	–	10 l: 4.80621.9010	–	
	0.01 mol/l (0.01 N)	1.09961.0001	–	–	
	0.02 mol/l (0.02 N)	–	0.5 l: 1.09142.0500	–	
	0.1 mol/l (0.1 N)	1.09959.0001	1 l: 1.09141.1000 ^{1,2}	4 l: 1.09141.4000 ^{1,2}	
			5 l: 1.09141.5000 ^{1,2}	10 l: 1.09141.9010 ^{1,2}	
			25 l: 1.09141.9025 ^{1,2}	–	
	0.111 mol/l (0.111 N)	–	25 l: 1.10822.9025	–	
	0.2 mol/l (0.2 N)	–	1 l: 1.09140.1000	10 l: 1.09140.9010	
	0.25 mol/l (0.25 N)	1.09958.0001	1 l: 1.09139.1000	10 l: 1.09139.9010	
	0.33 mol/l (0.33 N)	–	1 l: 1.05595.1000	10 l: 1.05595.9010	
	0.5 mol/l (0.5 N)	1.09957.0001	1 l: 1.09138.1000	4 l: 1.09138.4000	
			25 l: 1.09138.9025	10 l: 1.09138.9010	
	1 mol/l (1 N)	1.09956.0001	1 l: 1.09137.1000 ^{1,2}	4 l: 1.09137.4000 ^{1,2}	
			2.5 l: 1.09137.2500 ^{1,2}	10 l: 1.09137.9010 ^{1,2}	
			25 l: 1.09137.9025 ^{1,2}	–	
	1 mol/l (1 N) prepared from raw materials acc. to Ph Eur	–	25 l: 1.99060.9025	–	
2 mol/l (2 N)	–	1 l: 1.09136.1000	–		
		25 l: 1.09136.9025	–		
4 mol/l (4 N)	–	5 l: 1.11584.5000	–		
5 mol/l (5 N)	–	1 l: 1.09913.1000	–		
6 mol/l (1 N) prepared from raw materials acc. to Ph Eur	–	25 l: 1.99062.9025	–		
Sodium thiosulfate solution	0.01 mol/l (0.01 N)	1.09909.0001	–	–	
	0.1 mol/l (0.1 N)	1.09950.0001	1 l: 1.09147.1000 ^{1,2} 25 l: 1.09147.9025 ^{1,2}	4 l: 1.09147.4000 ^{1,2} 10 l: 1.09147.9010 ^{1,2}	
Sulfuric acid	0.005 mol/l (0.01 N)	1.09982.0001	–	–	
	0.05 mol/l (0.1 N)	1.09984.0001	1 l: 1.09074.1000 ¹	4 l: 1.09074.4000 ¹	
			5 l: 1.09074.5000 ¹	10 l: 1.09074.9010 ¹	
	0.25 mol/l (0.5 N)	–	1 l: 1.09073.1000	4 l: 1.09073.4000	
			10 l: 1.09073.9010	–	
	0.5 mol/l (1 N)	1.09981.0001	1 l: 1.09072.1000 ^{1,2}	4 l: 1.09072.4000 ^{1,2}	
5 l: 1.09072.5000 ^{1,2}			10 l: 1.09072.9010 ^{1,2}		
2.5 mol/l (5 N)	1.09912.0001	1 l: 4.80364.1000 25 l: 4.80364.9025	–		
T Tetra-n-butyl-ammonium hydroxide solution	0.1 mol/l (0.1 N) in 2-propanol/methanol	–	0.5 l: 1.09162.0500 ^{1,2}	–	
			1 l: 1.09162.1000 ^{1,2}	–	
	Tetramethylammonium hydroxide solution	0.1 mol/l (0.1 N) in 2-propanol/methanol	–	0.25 l: 1.08124.0250 ²	–
				1 l: 1.08124.1000	–
Titriplex® solution A	50 mg CaO/l = 1 ml	–	1 l: 1.08419.1000	–	
Titriplex® solution B	10 mg CaO/l = 1 ml	–	1 l: 1.08420.1000	10 l: 1.08420.9010	
			5 l: 1.08420.5000	–	
Titriplex®, III solution (Na ₂ -EDTA)	0.01 mol/l	1.08446.0001	–	–	
	0.1 mol/l	1.09992.0001	1 l: 1.08431.1000 ¹	4 l: 1.08431.4000 ¹ 10 l: 1.08431.9010 ¹	

1: Solution in accordance with the reagents chapter of Pharm. Eur (European Pharmacopoeia) | 2: Solution in accordance with the reagents chapter of USP (United States Pharmacopoeia)

Product	Concentration	Titrisol® Ampoules for 1 l solution Ord. No.	Ready-to-use solutions	
			Glass bottles, PE bottles/canisters Ord. No.	Titripac® Ord. No.
T Trifluoromethanesulfonic acid in anhydrous acetic acid	0.1 mol/l	–	1 l: 1.08050.1000	–
Titriplex®, IV solution (Na ₂ -DCTA)	0.1 mol/l	–	1 l: 1.08447.1000	4 l: 1.08447.4000
W Wijs solution (iodomonochloride in acetic acid)	0.1 mol/l	–	1 l: 1.09163.1000 2.5 l: 1.09163.2500	–
Z Zinc sulfate solution	0.1 mol/l	1.09991.0001	1 l: 1.08879.1000 ¹	–

¹: Solution in accordance with the reagents chapter of Pharm. Eur (European Pharmacopoeia)

Titripur® – made from raw materials in accordance with the European Pharmacopoeia

For some pharmaceutical industry applications, it's important to work with solutions made from raw materials in accordance with the European Pharmacopoeia (Pharm. Eur). Even the water³ used for this purpose has been tested in accordance with Pharm. Eur. The relevant information can be found in the certificate.

Ordering information Titripur® prepared from raw materials acc. to Ph Eur

Product	Concentration	Ready-to-use solutions	
		Glass bottles, PE bottles/canisters Ord. No.	Titripac® Ord. No.
A Acetic acid	1 mol/l (1 N) prepared from raw materials acc. to Ph Eur	25 l: 1.99061.9025	–
H Hydrochloric acid	1 mol/l (1 N) prepared from raw materials acc. to Ph Eur	25 l: 1.99070.9025	–
S Sodium hydroxide solution	1 mol/l (1 N) prepared from raw materials acc. to Ph Eur	25 l: 1.99060.9025	–
	6 mol/l (1 N) prepared from raw materials acc. to Ph Eur	25 l: 1.99062.9025	–

Other volumetric solutions made from raw materials in accordance with Pharm. Eur are available on request. | 3: Purified water

Ordering information Titriplex® solid substances

Product	Content	Packaging	Ord. No.
I Titriplex® I for analysis (nitrilotriacetic acid)	250 g	Plastic bottle	1.08416.0250
II Titriplex® II for analysis (ethylenedinitrilotetraacetic acid, EDTA) ACS, Reag. Ph Eur	100 g	Plastic bottle	1.08417.0100
	250 g	Plastic bottle	1.08417.0250
	1 kg	Plastic bottle	1.08417.1000
	5 kg	Plastic bottle	1.08417.5000
III Titriplex® III for analysis (ethylenedinitrilotetraacetic acid disodium salt dihydrate, EDTA disodiumsalt dihydrate) ACS, ISO, Reag. Ph Eur	100 g	Plastic bottle	1.08418.0100
	250 g	Plastic bottle	1.08418.0250
	1 kg	Plastic bottle	1.08418.1000
	5 kg	Plastic bottle	1.08418.5000
	10 kg	Fibre carton	1.08418.9010
IV Titriplex® IV for analysis (1,2-cyclohexylenedinitrilotetraacetic acid monohydrate)	25 g	Plastic bottle	1.08424.0025
	100 g	Plastic bottle	1.08424.0100
	25 kg	Fibre carton	1.08418.9025
V Titriplex® V for analysis (diethylenetriaminepentaacetic acid)	100 g	Plastic bottle	1.08426.0100
VI Titriplex® VI for analysis (3,6 -Dioxaoctamethylenedinitriiloacetic acid)	25 g	Plastic bottle	1.08435.0025
	100 g	Plastic bottle	1.08435.0100

Additional products for Titration

Product	Content	Packaging	Ord. No.
Indicator buffer tablets for determination of water hardness with Titriplex® solutions	500 tabs	Plastic can	1.08430.0500
	1,000 tabs	Plastic can	1.08430.1000
Ammonium buffer solution for complexometry pH = 10 – 11	1 l	Plastic bottle	1.09478.1000
Sodium hydroxide on support to prevent alkaline solutions from absorbing carbondioxide	250 g	Plastic bottle	1.01564.1000
	1 kg	Plastic bottle	1.01564.1000



Certipur® volumetric standards

Reference materials for reliable standardization

Certipur® secondary reference materials in volumetry

Merck Millipore's laboratory for mass fraction is accredited according to DIN EN ISO / IEC 17025. Certipur® primary substances are directly traceable to standard reference materials from the NIST (National Institute for Standard and Technology, Gaithersburg, Maryland, United States). Proper titer determination is an important prerequisite for accurate and comparable analysis in the titration laboratory. Influential factors such as temperature, instrument variances, different methods of handling, weighing errors, etc. and the volumetric solution itself can impact the titration results. To compensate for these factors, titer determination under working conditions is necessary in the respective laboratory. This is where Certipur® – secondary reference materials (volumetric standards) comes in. These are very pure, high-grade and stable solid substances. To ensure their high standard of quality, they are manufactured under the strictest control and measured with the highest possible precision in our accredited laboratory according to DIN EN ISO / IEC 17025.

Volumetric standards

Analysis	Designation	Package size	Ord. No.
Acidimetry	Sodium carbonate ¹	80 g	1.02405.0080
	Tris(hydroxymethyl)aminomethane ²	80 g	1.02408.0080
Alkalimetry	Potassium hydrogen phthalate ^{1,2}	80 g	1.02400.0080
	Benzoic acid ^{1,2}	60 g	1.02401.0060
Argentometry	Sodium chloride ^{1,2}	80 g	1.02406.0080
Complexometry	Zinc ¹	100 g	1.02409.0100
	Calcium carbonate ²	50 g	1.02410.0050
Iodometry	Potassium iodate	100 g	1.02404.0100
Redox titration	Iron(II)ethylenediammonium sulfate	80 g	1.02402.0080
	Potassium dichromate ²	80 g	1.02403.0080
	di-Sodium oxalate ²	60 g	1.02407.0060

1: Solution according to Reag. Ph Eur | 2: Solution according to the reagents chapter of USP

Advantages

- Secondary reference material for accurate titer determination
- Highly pure materials traceable to NIST
- In accordance to the reagents part of Pharmacopoeias
- Measured in the ISO 17025 accredited laboratory



The right indicator for every titration!

The corresponding indicators for different titrations are available to users who prefer to work with buretts. Extensive analysis accompanied by the high standard of quality of the Merck indicators ensure reproducible results.

Ordering information Indicators

Analysis	Product	Color change	Package size	Ord. No.
Acidimetry	Bromcresol green	blue – yellow	1 g	1.08121.0001
			5 g	1.08121.0005
			25 g	1.08121.0025
	Thymol blue	yellow – blue	5 g	1.08176.0005
			25 g	1.08176.0025
	Mixed indicator (4.5) acc. to Mortimer	blue – red	250 ml	1.01359.0250
Alkalimetry	Bromphenol blue	blue – yellow	8 g	1.08122.0005
			25 g	1.08122.0025
	Bromphenol blue	blue – yellow	5 g	1.03026.0005
			25 g	1.03026.0025
			500 g	1.03026.0500
Congo red	red – blue	25 g	1.01340.0025	
Argentometry	Bromkresol purple	purple – teal	5 g	1.03025.0005
			25 g	1.03025.0025
			500 g	1.03025.0500
	Potassium chromate	yellow – brown – red	250 g	1.04952.0250
			1,000 g	1.04952.1000
	Fluorescein sodium	fluorescent green – rose	50 g	1.03887.0050
			250 g	1.03887.0250
Neutral red	red violet – orange	25 g	1.01369.0025	
		100 g	1.01369.0100	
Complexometry	Methylthymol blue	blue – yellow	1 g	1.06084.0001
			5 g	1.06084.0005
	Erichrome black T	ruby colored – blue	25 g	1.03170.0025
			100 g	1.03170.0100
	Calconcarboxylic acid	ruby colored – blue	5 g	1.04595.0005
			25 g	1.04595.0025
Indicator buffer tablets	red – green	500 piece	1.08430.0500	
		1,000 piece	1.08430.1000	
Non aqueous titration	Oracet blue 2 R	rose – blue	5 g	1.01487.0005
	1-Naphtholbenzein	yellow – green	5 g	1.06202.0005
Redox titration	Diphenyl amine	blue violet – colorless	100 g	1.09193.0100
			500 g	1.09193.0500
	Ferroun solution (1.10 Phenantroline iron(II) salt)	blue – orange – red	100 g	1.09193.0100
			500 g	1.09193.0500
Indigocarmine	blue – yellowish	25 g	1.04724.0025	

More indicators can be found in our catalog "Chemicals & Reagents" (W200101) or on the Web at www.merck-chemicals.com.

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