

Titration standards for preparation of buffer solutions – pH working standards of 1st category

INTENDED FOR

preparation of buffer solutions, reproducing and transmitting values of the activity index of hydrogen ions (pH) in aqueous solutions.

DESCRIPTION OF MEASURING INSTRUMENT

Titration standards represent quantities of chemical substances upon dissolution of which in a certain volume buffer solution - pH working standards are received. pH working standards of 1 category are prepared by diluting the quantity of substance with double-distilled water with specific electrical conductance (SEC) not more than $2 \cdot 10^{-4}$ Cm/m. pH Working standards of 1 category are prepared in accordance with TC 2642-006-02567567-2010. Titration standards for preparation of buffer solutions – pH working standards of 1 and 2 categories of CT-pH. Technical conditions.

Titration standards are contained in plastic bottles. The bottle is leakproof and has a screw cap with a protective ring. Titration standards CT-pH-1 have 8 modifications differing in the composition of the quantity of substance, the concentration of chemicals in the prepared buffer solution and reproducible pH value.



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Modifications of titration standards	Name of chemical substances, included in titration standards	Chemical formula of substances	Weight of quantities of chemical substances, g	Weight of quantities of chemical substances, g	pH reproducible value at temperature +25°C
ST-pH-1-1	Potassium tetraoxalate dihydrate	$\text{KH}_3(\text{C}_2\text{O}_4)_2 \cdot 2\text{H}_2\text{O}$	12,6100	0,05	1,646
ST-pH-1-2	Potassium hydrotartrate	$\text{KHC}_4\text{H}_4\text{O}_6$	9,50	saturated at temperature +25°C	3,557
ST-pH-1-3	Potassium hydrogenphthalate	$\text{KHC}_8\text{H}_4\text{O}_4$	10,1200	0,05	4,005
ST-pH-1-4	Potassium phosphate monosubstituted	KH_2PO_4	3,3880	0,025	6,865
	Sodium phosphate twice-substituted	Na_2HPO_4	3,5330	0,025	
ST-pH-1-5	Potassium phosphate monosubstituted	KH_2PO_4	1,1790	0,0087	7,413
	Sodium phosphate twice-substituted	Na_2HPO_4	4,3030	0,0304	
ST-pH-1-6	Sodium tetraborate decahydrate	$\text{Na}_2\text{B}_4\text{O}_7 \cdot 10\text{H}_2\text{O}$	3,8064	0,01	9,180
ST-pH-1-7	Sodium carbonate	Na_2CO_3	2,6428	0,025	10,012
	Sodium carbonate acid	NaHCO_3	2,0947	0,025	
ST-pH-1-8	Calcium hydroxide	$\text{Ca}(\text{OH})_2$	1,75	saturated at temperature +20°C	12,43