

Titration standards for preparation of buffer solutions – pH working standards of 2nd category

INTENDED FOR

the preparation of buffer solutions that reproduce and transmit 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 2 category are prepared by diluting the quantity of substance with double-distilled water with specific conductivity (UEC) of not more than $2 \cdot 10^{-4}$ Sm / m.

pH working standards of 2 category are prepared in accordance with GOST 8.135-2004. Titration standards are contained in plastic bottles. The bottle is leakproof and has a screw cap with a protective ring. Titration standards ST-pH-2 have 11 modifications, differing in the composition of the quantity of substance, the concentration of chemicals in the prepared buffer solution and reproducible pH value.

Titration standards for preparation of buffer solutions – pH working standards of 2nd category

Modifications of titration standards (modification number according to GOST 8.135-2004)	Name of chemical substances, included in titration standards	Chemical formulas of substances	Weight of quantities of chemical substances, g	The concentration of substances, mole / kg	pH reproducible value at temperature +25°C
ST-pH-2-1(1)	Potassium tetraoxalate dihydrate	$\text{KH}_3(\text{C}_2\text{O}_4)_2 \cdot 2\text{H}_2\text{O}$	25,219	0,1	1,48
ST-pH-2-2(2)	Potassium tetraoxalate dihydrate	$\text{KH}_3(\text{C}_2\text{O}_4)_2 \cdot 2\text{H}_2\text{O}$	12,610	0,05	1,65
ST-pH-2-3(4)	Potassium hydrotartrate	$\text{KHC}_4\text{H}_4\text{O}_6$	9,50	saturated at temperature +25°C	3,56
ST-pH-2-4(5)	Potassium hydrogenphthalate	$\text{KHC}_8\text{H}_4\text{O}_4$	10,120	0,05	4,01
ST-pH-2-5(9)	Potassium phosphate monosubstituted	KH_2PO_4	3,3880	0,025	6,86
	Sodium phosphate twice-substituted	Na_2HPO_4	3,5330	0,025	
ST-pH-2-6(10)	Potassium phosphate monosubstituted	KH_2PO_4	1,1790	0,0087	7,41
	Sodium phosphate twice-substituted	Na_2HPO_4	4,3030	0,0304	
ST-pH-2-7(11)	Potassium phosphate monosubstituted	KH_2PO_4	1,3560	0,1	7,43
	Sodium phosphate twice-substituted	Na_2HPO_4	5,6564	0,04	
ST-pH-2-8(13)	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-2-9(14)	Sodium tetraborate decahydrate	$\text{Na}_2\text{B}_4\text{O}_7 \cdot 10\text{H}_2\text{O}$	19,012	0,05	9,180
ST-pH-2-10(15)	Sodium carbonate	Na_2CO_3	2,6428	0,025	10,00
	Sodium carbonate acid	NaHCO_3	2,0947	0,025	
ST-pH-2-11(16)	Calcium hydroxide	$\text{Ca}(\text{OH})_2$	1,75	saturated at temperature +20°C	12,43