

## Fixanal pH for preparation of buffer solution – pH working standard of 2<sup>nd</sup> category

### INTENDED FOR

the preparation of buffer solution that reproduce and transmit value of the activity index of hydrogen ions (pH) in aqueous solution.

### DESCRIPTION OF MEASURING INSTRUMENT

Fixanal pH represents quantities of chemical substances upon dissolution of which in a certain volume buffer solution - pH working standard is received. pH working standard of 2<sup>nd</sup> category is prepared by diluting the quantity of substance with double-distilled water with specific electrical conductance (SEC) not more than  $2 \cdot 10^{-4}$  S/m.

Fixanal pH is contained in plastic bottles. The bottle is leakproof and has a screw cap with a protective ring.

F-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.

The limits of the permissible absolute error in reproducing the pH of working standards of the 2<sup>nd</sup> category -  $\pm 0.01$ .



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Modifications of Fixanal pH	Name of chemical substances, included in Fixanal pH	Chemical formulas of substances	Weight of quantities of chemical substances, g	The concentration of substances, mole / kg	pH reproducible value at temperature +25°C
F-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
F-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
F-pH-2-3(4)	Potassium hydrotartrate	$\text{KHC}_4\text{H}_4\text{O}_6$	9.50	satuated at temperature +25°C	3.56
F-pH-2-4(5)	Potassium hydrogenphthalate	$\text{KHC}_8\text{H}_4\text{O}_4$	10.120	0.05	4.01
F-pH-2-5(9)	Potassium phosphate monosubstituted	$\text{KH}_2\text{PO}_4$	3.3880	0.025	6.86
	Sodium phosphate twice-substituted	$\text{Na}_2\text{HPO}_4$	3.5330	0.025	
F-pH-2-6(10)	Potassium phosphate monosubstituted	$\text{KH}_2\text{PO}_4$	1.1790	0.0087	7.41
	Sodium phosphate twice-substituted	$\text{Na}_2\text{HPO}_4$	4.3030	0.0304	
F-pH-2-7(11)	Potassium phosphate monosubstituted	$\text{KH}_2\text{PO}_4$	1.3560	0.1	7.43
	Sodium phosphate twice-substituted	$\text{Na}_2\text{HPO}_4$	5.6564	0.04	
F-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	9.18
F-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	9.18
F-pH-2-10(15)	Sodium carbonate acid	$\text{Na}_2\text{CO}_3$	2.6428	0.025	10.00
		$\text{NaHCO}_3$	2.0947	0.025	
F-pH-2-11(16)	Calcium hydroxide	$\text{Ca}(\text{OH})_2$	1.75	satuated at temperature +25°C	12.43