$Na_2O : B_2O_3$ was varied between 3 : 1 and 1 : 5, was made at 30° C. using the glass electrode. The curves obtained for the different concentrations of the solutions by plotting pH against the ratio $Na_2O : B_2O_3$ brought to light a striking fact that these curves intersect at one point corresponding to a value of Ratio = 1 : 2·425. A solution of sodium borate containing this ratio of $Na_2O : B_2O_3$ is obviously such that its pH remains unaltered when diluted from 0·15 N to 0·005 N. A solid mixture with this ratio of $Na_2O : B_2O_3$ when dissolved in any quantity of water within the range indicated by concentrations used in this work would give a pH = 8·91.

Kiehl and Loucks[1] have measured at 30° C. the pH of $NaBO_2$ and $Na_2B_4O_7$ over a wide range of concentrations. It is interesting to note that these values are in good agreement with those obtained in this investigation. This is brought out in the following table:—

Concentration in Normality	0·05		0·10		0·15	
Solution	K & L	Authors	K & L	Authors	K & L	Authors
$NaBO_2$ i.e., $Na_2O : B_2O_3 = 1 : 2$	10·43	10·38	10·68	10·51	—	—
$Na_2B_4O_7$ i.e., $Na_2O : B_2O_3 = 1 : 2$	9·16	9·13	9·15	9·14	9·18	9·18

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1. *Trans. Electrochem. Soc.*, 1935, **67**, 81.

THE pH OF SODIUM BORATE SOLUTIONS—A USEFUL BUFFER MIXTURE

THE determination of the hydrogen-ion concentrations of solutions containing boric acid and sodium hydroxide in which the ratio