

PREPARATION OF BUFFER SOLUTIONS

Dilute each of the mixtures to 1 L with distilled water. (NOTE: the pH will not be affected if the volumes are slightly more or less than 1 L.)

IMPORTANT: The pH of each buffer must be checked and adjusted before being bottled.

- If the pH is too high, adjust the pH to the correct value by adding 1 M HCl, with stirring.
- If the pH is too low, adjust the pH to the correct value by adding 1 M NaOH, with stirring.

| pH | Mixture |
|----|---|
| 3 | 10.21 g of potassium hydrogen phthalate + 223 mL of 0.10 M HCl |
| 4 | 10.21 g of potassium hydrogen phthalate + 1 mL of 0.10 M HCl |
| 5 | 10.21 g of potassium hydrogen phthalate + 226 mL of 0.10 M NaOH |
| 6 | 6.81 g of potassium phosphate monobasic + 56 mL of 0.10 M NaOH |
| 7 | 6.81 g of potassium phosphate monobasic + 291 mL of 0.10 M NaOH |
| 8 | 6.81 g of potassium phosphate monobasic + 467 mL of 0.10 M NaOH |
| 9 | 4.77 g of sodium tetraborate + 46 mL of 0.10 M HCl |
| 10 | 4.77 g of sodium tetraborate + 183 mL of 0.10 M NaOH |
| 11 | 2.10 g of sodium bicarbonate + 227 mL of 0.10 M NaOH |