

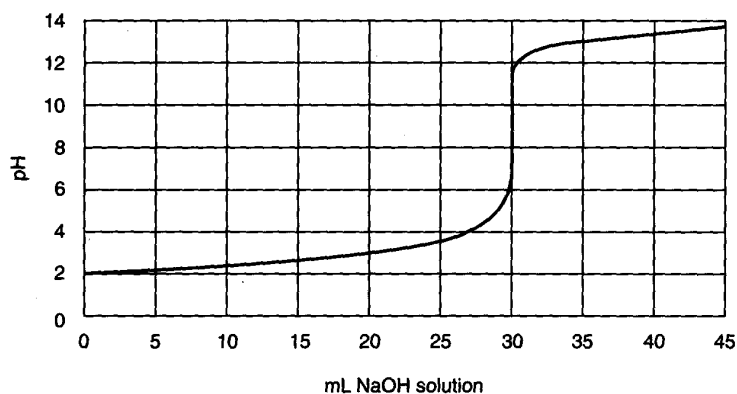
- | | |
|------------------------------------|---|
| a. Sour taste | b. Turns phenolphthalein pink |
| c. Conduct an electric current | d. Salty taste |
| e. Turns phenolphthalein colorless | f. Reacts with active metals to produce H_2 gas |
| g. Bitter taste | h. Turns red litmus blue |
| i. Turns blue litmus red | j. Slippery feel |

Neutralization and Concentration

An acid solution can neutralize a base solution to produce a solution that is neither acid nor base. With the help of an indicator and a carefully prepared solution, it is possible to calculate the concentration of the solution being neutralized. Answer questions for the following situation.

- 50 mL of a solution of HNO_3 of unknown concentration was titrated with a 0.25M NaOH solution. Write the balanced chemical equation for the neutralization reaction. Explain why the neutralized solution no longer acts as an acid or a base.

During the titration, pH was monitored. The data are plotted on the graph below.



- What volume of 0.25M NaOH is required to reach the equivalence point? _____
- Calculate the concentration of the HNO_3 solution, given the volume of 0.25M NaOH solution required for neutralization. _____
- How will the graph differ if the concentration of the NaOH solution used for titrating is 0.5M?
