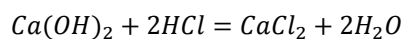


Question #33097

what volume of 0.12mol/dm³ calcium hydroxide solution will exactly be neutralized by 25.0ml of 0.026mol/dm³ hydrochloric acid?

Solution:

According to the chemical reaction equation



For neutralization of 1 mol of hydrochloric acid need 1/2 mol of calcium hydroxide

25 ml of 0.026 mol/L hydrochloric acid contain

$$\frac{25}{1000} * 0.026 = 0.00065 \text{ mol of hydrochloric acid}$$

For neutralization of this we need

$$0.00065 * \frac{1}{2} = 0.000325 \text{ mol of calcium hydroxide}$$

The volume of 0.12mol/dm³ calcium hydroxide solution is

$$0.000325 * 0.12 = 0.000039 \text{ L} = 39.0 \text{ ml}$$

Answer: 39.0 ml.