

অনুশীলনী ৩ রাসায়নিক বিক্রিয়া গণনা:

১) আকরিক আকরিক,

$$S_H = \frac{W \times 1000}{M \times V}$$

$$\Rightarrow W = \frac{S_H \times M \times V}{1000}$$

$$= \frac{1 \times 106 \times 250}{1000}$$

$$= 26.5 \text{ g (Ans)}$$

$$\text{দ্রবের আয়তন, } V = 250 \text{ cm}^3$$

$$\text{দ্রবের ঘনত্ব, } S_H = 1 \text{ M}$$

$$\text{দ্রবের আণবিক ভর, } M = 106 \text{ g mol}^{-1}$$

$$\text{দ্রবের ভর, } W = ?$$

ii) আকরিক আকরিক,

$$S_H = \frac{W \times 1000}{M \times V}$$

$$\Rightarrow W = \frac{S_H \times M \times V}{1000}$$

$$= \frac{1 \times 106 \times 250}{10 \times 1000}$$

$$= 2.65 \text{ g (Ans)}$$

$$V = 250 \text{ cm}^3$$

$$S_H = \frac{1}{10} \text{ M}$$

$$M = 106 \text{ g mol}^{-1}$$

$$W = ?$$

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40 cm³ દ્રવણ HCl માટે $(2 \times 10^{-2} + 0.02) \text{ mol}$

$$\therefore 1000 \times \frac{0.04 \times 1000}{40}$$

$$= 1 \text{ mol}$$

$\therefore$ HCl દ્રવણની સાંદ્રતા 1 M

Ans: 1 M

૨૪/ આપણા આલિ,

$$S_B = \frac{W_B \times 1000}{M_B \times V}$$

$$= \frac{5 \times 1000}{106 \times 100}$$

$$= 0.4717 \text{ M}$$

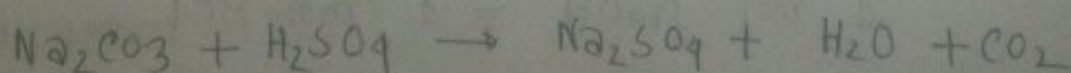
આપણે,

$$M_B = 106 \text{ g mol}^{-1}$$

$$V = 100 \text{ cm}^3$$

$$S_B = ?$$

અર્થઘટિત વિક્રિયા -



અણીકરણ અનુસાર -

$$V_A S_A = V_B S_B$$

$$\Rightarrow V_A = \frac{V_B S_B}{S_A}$$

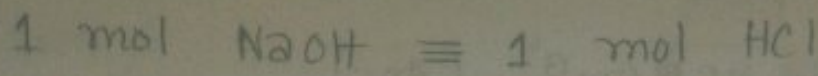
$$S_A = 0.1 \text{ M}$$

$$V_B = 25 \text{ cm}^3$$

$$S_B = 0.4717 \text{ M}$$

$$V_A = ?$$

প্রমাণিত অনুসার -



$$\Rightarrow 1000 \text{ cm}^3 1 \text{ M NaOH} \equiv 1 \text{ mol HCl}$$

$$\therefore 60 \text{ cm}^3 0.1 \text{ M NaOH} \equiv \frac{60 \times 0.1}{1000} \text{ " "}$$

$$\equiv \frac{6}{1000} \text{ " "}$$

প্রমাণিত ,

$$\frac{2x}{24.3} + \frac{6}{1000} = \frac{1}{125}$$

$$\Rightarrow \frac{2x}{24.3} = \frac{1}{125} - \frac{6}{1000}$$

$$\Rightarrow \frac{2x}{24.3} = \frac{8-6}{1000}$$

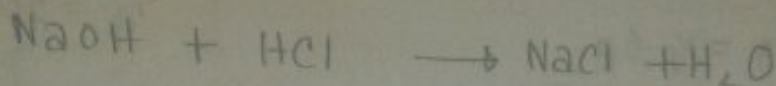
$$\Rightarrow x = \frac{24.3}{500 \times 2}$$

$$\therefore x = 0.0243$$

$\therefore$ Mg দ্রব্যের ভর ছিল 0.0243 g

Ans: 0.0243 g

ଅବଶିଷ୍ଟ ପ୍ରକାଶନ ବିକ୍ରିଆ -



ଅନ୍ତରାଳନ ଅନୁସାରେ -

$$V_A S_A = V_B S_B$$

$$\Rightarrow S_B = \frac{V_A S_A}{V_B}$$

$$= \frac{2.2 \times 1}{25}$$

$$= 0.088 \text{ M}$$

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1L 0.088 mol

$$= (0.088 \times 40) \text{ g}$$

$$= 3.52 \text{ g}$$

Ans: 0.088 M, 3.52 g

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