

Calculate the normality(N) of 0.321 g Na_2CO_3 when it is mixed in a 250 ml solution.

Answer:

Here given,

$$\therefore \text{Mass of } \text{Na}_2\text{CO}_3 (w) = 0.321 \text{ g}$$

$$\text{Mass of } \text{Na}_2\text{CO}_3 (M) = 106$$

Equivalent mass of solution

$$(\text{Eq}) = \frac{106}{2(\text{Equivalent number})}$$

$$= 53$$

$$\text{Volume of solution} = 250 \text{ ml}$$

In 250 ml solution, the amount of Na_2CO_3 is 0.321 g

In 1 L solution, the amount of Na_2CO_3 is $\frac{0.321 \times 1000}{250} \text{ g}$

$$= 1.284 \text{ g}$$

$\therefore$ Normality of 0.321 g Na_2CO_3

$$= \frac{1.284}{53}$$

$$= 0.0242 \text{ N}$$

$\therefore$ The normality of that solution is 0.0242 N.