Answer on Question #62905 - Chemistry - General Chemistry

**Question**

250.mL of a 0.073 M HCl solution. What mass of $NaHCO_3$ $HCl(aq) + NaHCO_3(aq) \rightarrow NaCl(aq) + H_2O(l) + CO_2(g)$

**Solution**:

Chemical equation: $HCl(aq) + NaHCO_3(aq) \rightarrow NaCl(aq) + H_2O(l) + CO_2(g)$

$$\vartheta(HCl) = V(HCl) \cdot c(HCl) = 0.25 \cdot 0.073 = 0.01825\ (mol)$$

$$m(NaHCO_3) = M(NaHCO_3) \cdot \vartheta(NaHCO_3) = M(NaHCO_3) \cdot \vartheta(HCl) = 84 \cdot 0.01825 = 1.533\ (g)$$

**Answer**: The mass of $NaHCO_3$ is 1.533 g