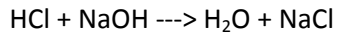


## Answer on Question #50322 - Chemistry – Other

### Question

How many grams of NaCl will be produced when 2235 g of HCl are neutralized by an excess of NaOH according to the equation below?



### Answer:

Molar mass of NaCl equals:

$$M(\text{NaCl}) = M(\text{Na}) + M(\text{Cl}) = 23.0 + 35.5 = 58.5 \frac{\text{g}}{\text{mole}}$$

Molar mass of HCl equals:

$$M(\text{HCl}) = M(\text{H}) + M(\text{Cl}) = 1.0 + 35.5 = 36.5 \frac{\text{g}}{\text{mole}}$$

If 1 mole of HCl is neutralized, 1 mole of NaCl will be produced, i.e. 58.5 g of NaCl form by neutralizing 36.5 g of HCl. Then we make a proportion:

58.5 g of NaCl form by neutralizing 36.5 g of HCl

$x$  g of NaCl – 2235 g of HCl

$$x = \frac{58.5 \cdot 2235}{36.5} = 3582.1 \text{ g}$$

**Answer:**  $m(\text{NaCl}) = 3582.1 \text{ g}$ .