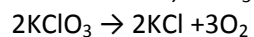


### Answer on Question#40463-Chemistry-Other

#### Question

When heated,  $\text{KClO}_3$  decomposes into  $\text{KCl}$  and  $\text{O}_2$ .



If this reaction produced 74.6 g of  $\text{KCl}$ , how much  $\text{O}_2$  was produced (in grams)?

#### Solution

Based on the chemical equation and molar mass values ( $M_{\text{KCl}} = 74,6 \text{ g/mol}$ ,  $M_{\text{O}_2} = 32.0 \text{ g/mol}$ ) we may write the proportion:

$$\begin{array}{l} 2 \text{ mol} \cdot 74.6 \text{ g/mol (KCl)} - 3 \text{ mol} \cdot 32.0 \text{ g/mol (O}_2\text{)} \\ 74.6 \text{ g (KCl)} - X \text{ g (O}_2\text{)} \end{array}$$

$$X = 3 \cdot 32.0 \cdot 74.6 / 2 \cdot 74.6 = 48.0 \text{ g}$$

**Answer: 48.0 g** of  $\text{O}_2$  was produced.