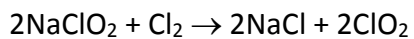


Answer on Question #71457 – Chemistry – General Chemistry

According to the following unbalanced reaction, what is the maximum amount of NaCl (g) can be prepared from 106 g of Cl₂ and 154 g of NaClO₂.

Solution:



$$\begin{array}{ccc} 154 \text{ g} & x \text{ g} & x = (2 \times 58.5 \times 154) / (2 \times 90.5) = 99.55 \text{ g is maximum amount of NaCl} \\ (2 \times 90.5) \text{ g} & (2 \times 58.5) \text{ g} & \end{array}$$

$$n(\text{NaClO}_2) = m(\text{NaClO}_2) / 2 \times M(\text{NaClO}_2) = 154 \text{ g} / (2 \times 90.5) \text{ g/mol} = 0.85 \text{ mol}$$

$$n(\text{Cl}_2) = m(\text{Cl}_2) / M(\text{Cl}_2) = 106 \text{ g} / 71 \text{ g/mol} = 1.5 \text{ mol}$$

Cl₂ is an excess

Answer provided by <https://www.AssignmentExpert.com>