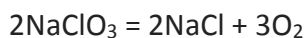


Answer on Question #56880 – Chemistry – General Chemistry

Question:

Sodium chlorate ($\text{NaClO}_3(\text{s})$) dissociates, during moderate heating to produce solid sodium chloride ($\text{NaCl}(\text{s})$) and gaseous oxygen ($\text{O}_2(\text{g})$). A 3.4671 g of impure sodium chlorate was heated until the evolution of oxygen stopped. The mass of sample residue was subsequently found to be 2.9073 g. What wt% of the original impure sample was really sodium chlorate? Assume that no gases will be evolved from the impurities.

Solution:



$$m(\text{O}_2) = 3.4671 - 2.9073 = 0.5598 \text{ (g)};$$

$$m(\text{NaClO}_3) = 2 * 106.44 * 0.5598 / 32 * 3 = 1.2413 \text{ (g)};$$

$$w(\text{NaClO}_3) = 1.2413 / 3.4671 = 35.8 \text{ (\%)};$$

Answer: 35.8 %