Answer on Question #52596 – Chemistry – Inorganic Chemistry

Question:

How many molecules of oxygen gas, O_2, are produced?

$$2KClO_3 = 2KCl + 3O_2$$

Conditions are incomplete!!! That's why I assume that we had 1 mole of $KClO_3$.

Answer:

Potassium chlorate decompose to form potassium chloride and oxigen, according ot the following reaction:

$$2KClO_3 = 2KCl + 3O_2$$

It is shown that from 2 mol of potassium chlorate we can obtain 3 mol of oxigen, so from 1 mol of potassium chlorate we will obtain **1.5 mol** of oxigen.

It is well known fact, that in 1 mole of pure substance there are $6.023*10^{23}$ molecules, so in 1.5 mol of oxygen contain **$9.035*10^{23}$ molecules** of oxygen.