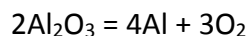


Answer on Question #52446 – Chemistry – Inorganic Chemistry

Question:

Aluminum oxide is decomposed using electricity to produce aluminum metal. How many grams of aluminum metal can be produced from 100.0 g of Al_2O_3 ?



Answer:

First of all we have to find the amount of mol of Al_2O_3 which was decomposed in the reaction.

We can find number of moles in a given mass by:

$$n = \frac{\text{given mass}}{\text{Molecular Mass}}$$

So, in our case $n = \frac{100}{102} = 0.9804 \text{ mol}$

It is visible from the chemical reaction that from 2 mol of Al_2O_3 we can obtain 4 mol of Al, so from 0.9804 mol of Al_2O_3 we will obtain **1.9608 mol of Al**.