

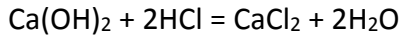
## Answer on Question #49493 - Chemistry – Other

### Question

In the following reaction, how many grams of calcium hydroxide, Ca(OH)<sub>2</sub>, will be needed to react with 75.1 g of hydrochloric acid, HCl?

### Answer:

Reaction between calcium hydroxide and hydrochloric acid:



Number of moles of HCl is:

$$n = \frac{m}{M} = \frac{75.1}{36.5} = 2.06 \text{ moles}$$

According to the reaction, 2 moles of HCl react with 1 mole of Ca(OH)<sub>2</sub>, therefore, 2.06 moles of HCl react with 1.03 moles of Ca(OH)<sub>2</sub>.

Then the mass of calcium hydroxide needed is:

$$m(\text{Ca(OH)}_2) = nM = 1.03 \cdot 74 = 76.22 \text{ g}$$

**Answer:** 76.22 g