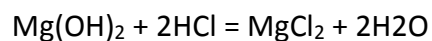


## Answer to Question #62312, Chemistry / Other

what mass of magnesium hydroxide would be required for the magnesium hydroxide to react to the equivalence point with 558 mL of 3.18 M hydrochloric acid

**Answer:**



If you are given 558 mL of 3.18 M of HCl, to find the mass of the  $\text{Mg(OH)}_2$ , we can use dimensional analysis and equation coefficients to convert volume of HCl to moles of HCl, to moles of  $\text{Mg(OH)}_2$ , to grams of  $\text{Mg(OH)}_2$ :

$$m = \frac{558 \text{ mL HCl}}{1 \text{ mL}} \times 1\text{L} \times \frac{3.18 \text{ mol/L}}{1000 \text{ mL}} \times \frac{1 \text{ mol Mg(OH)}_2}{2 \text{ mol HCl}} \times \frac{58.319 \text{ g Mg(OH)}_2}{1 \text{ mol Mg(OH)}_2} = 51.74 \text{ g}$$

**51.74 g  $\text{Mg(OH)}_2$**

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