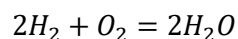


## C11 - 4.3 - Percent Yield/Percent Purity p.136

$$\text{Percent Yield} = \frac{\text{mass of product obtained}}{\text{mass of product expected}} \times 100\%$$

$$\text{Percent Purity} = \frac{\text{mass of pure reactant}}{\text{mass of impure reactant}} \times 100\%$$



If 20 g of  $\text{O}_2$  is reacted with an excess of  $\text{H}_2$ , 7.4 g of  $\text{H}_2\text{O}$  is formed.  
What is the percentage yield?

$$\text{mass H}_2\text{O} = 20 \text{ g O}_2 \times \frac{1 \text{ mol O}_2}{32 \text{ g O}_2} \times \frac{1 \text{ mol H}_2\text{O}}{1 \text{ mol O}_2} \times \frac{18 \text{ g H}_2\text{O}}{1 \text{ mol H}_2\text{O}} = 11.25 \text{ g H}_2\text{O}$$

$$\text{Percent Yield} = \frac{\text{mass of product obtained}}{\text{mass of product expected}} \times 100\%$$

$$\text{Percent Yield} = \frac{7.4 \text{ g H}_2\text{O}}{11.25 \text{ g H}_2\text{O}} \times 100\%$$

$$\text{Percent Yield} = 65.8\%$$

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