

Name: _____

Equivalents

Equivalent Molar Amounts

Given the reaction and number of moles of one species, find the equivalent numbers of moles of the other species.

1. $\text{C}_6\text{H}_6 + \text{HNO}_3 \rightarrow \text{C}_6\text{H}_5\text{NO}_2 + \text{H}_2\text{O}$
Start with 0.20 mol HNO_3 .

2. $2 \text{Fe} + 3 \text{CuCl}_2 \rightarrow 2 \text{FeCl}_3 + 3 \text{Cu}$
Start with 1.25 mol Fe.

3. $\text{CaCl}_2 + 2 \text{AgNO}_3 \rightarrow \text{Ca}(\text{NO}_3)_2 + 2 \text{AgCl}$
End with 5.5 mol AgCl.

Equivalent Molar Amounts and Masses

Given the reaction and the number of moles of one species, find the equivalent numbers of moles of the other species and the masses of all species.

1. $\text{Sr} + 2 \text{HCl} \rightarrow \text{SrCl}_2 + \text{H}_2$
Start with 1.0 mol HCl.

2. $2 \text{Al} + 3 \text{CuCl}_2 \rightarrow 2 \text{AlCl}_3 + 3 \text{Cu}$
End with 1.5 mol Cu.

Equivalent Masses

Given the reaction and the mass of one species, find the equivalent masses of all other species.

1. $\text{Zn} + 2\text{HCl} \rightarrow \text{ZnCl}_2 + \text{H}_2$
Start with 4.00 g Zn.

2. $\text{AgNO}_3 + \text{NaI} \rightarrow \text{AgI} + \text{NaNO}_3$
End with 2.00 g AgI.