

Name : _____

Date : _____ Score: _____

Percent Composition Worksheet

Determine the percent composition in each of the compounds below.



K = _____

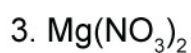
Mn = _____

O = _____



H = _____

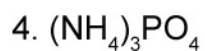
Cl = _____



Mg = _____

N = _____

O = _____

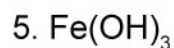


N = _____

H = _____

P = _____

O = _____



Fe = _____

O = _____

H = _____



Ag = _____

N = _____

O = _____

Name : _____

Date : _____ Score: _____

Percent Composition Worksheet

Answers

Determine the percent composition in each of the compounds below.

1. KMnO_4

Molar mass of $\text{KMnO}_4 = 158.04$ amu

K: $(39.1 \text{ amu}/158.04 \text{ amu}) \times 100 \% = 24.74\%$

K = 24.74%

Mn: $(54.94 \text{ amu}/158.04 \text{ amu}) \times 100 \% = 34.76\%$

Mn = 34.76%

O: $4 \times (16.00 \text{ amu}/158.04 \text{ amu}) \times 100 \% = 40.50\%$

O = 40.5%

2. HCl

Molar mass of HCl = 36.458 amu

H: $(1.008 \text{ amu}/36.458 \text{ amu}) \times 100 \% = 2.76\%$

H = 2.76%

Cl: $(35.45 \text{ amu}/36.458 \text{ amu}) \times 100 \% = 97.24\%$

Cl = 97.24%

3. $\text{Mg}(\text{NO}_3)_2$

Molar mass of $\text{Mg}(\text{NO}_3)_2 = 148.33$ amu

Mg: $(24.31 \text{ amu}/148.33 \text{ amu}) \times 100 \% = 16.39\%$

Mg = 16.39%

N: $(14.01 \text{ amu}/148.33 \text{ amu}) \times 100 \% = 18.89\%$

N = 18.89%

O: $6 \times (16.00 \text{ amu}/148.33 \text{ amu}) \times 100 \% = 64.72\%$

O = 64.72%

4. $(\text{NH}_4)_3\text{PO}_4$

Molar mass of $(\text{NH}_4)_3\text{PO}_4 = 149.096$ amu

N: $3 \times (14.01 \text{ amu}/149.096 \text{ amu}) \times 100 \% = 28.19\%$

N = 28.19%

H: $12 \times (1.008 \text{ amu}/149.096 \text{ amu}) \times 100 \% = 8.11\%$

H = 8.11%

P: $(30.97 \text{ amu}/149.096 \text{ amu}) \times 100 \% = 20.77\%$

P = 20.77%

O: $4 \times (16.00 \text{ amu}/149.096 \text{ amu}) \times 100 \% = 42.93\%$

O = 42.93%

5. $\text{Fe}(\text{OH})_3$

Molar mass of $\text{Fe}(\text{OH})_3 = 106.87$ amu

Fe: $(55.85 \text{ amu}/106.87 \text{ amu}) \times 100 \% = 52.26\%$

Fe = 52.26%

O: $3 \times (16.00 \text{ amu}/106.87 \text{ amu}) \times 100 \% = 44.91\%$

O = 44.91%

H: $3 \times (1.008 \text{ amu}/106.87 \text{ amu}) \times 100 \% = 2.83\%$

H = 2.83%

6. AgNO_3

Molar mass of $\text{AgNO}_3 = 169.91$ amu

Ag: $(107.9 \text{ amu}/169.91 \text{ amu}) \times 100 \% = 63.5\%$

Ag = 63.5%

N: $(14.01 \text{ amu}/169.91 \text{ amu}) \times 100 \% = 8.25\%$

N = 8.25%

O: $3 \times (16.00 \text{ amu}/169.91 \text{ amu}) \times 100 \% = 28.25\%$

O = 28.25%