

Percent Composition Worksheet

Find the percent compositions of all of the elements in the following compounds:



Cu: _____

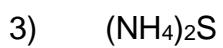
Br: _____



Na: _____

O: _____

H: _____



N: _____

H: _____

S: _____



N: _____

S: _____

5) KMnO_4

K: _____

Mn: _____

O: _____

6) HCl

H: _____

Cl: _____

7) $\text{Mg}(\text{NO}_3)_2$

Mg: _____

N: _____

O: _____

7) $(\text{NH}_4)_3\text{PO}_4$

N: _____

H: _____

O: _____

P: _____

8) $\text{Al}_2(\text{SO}_4)_3$

Al: _____

S: _____

O: _____

Percent Composition Worksheet - Solutions

Find the percent compositions of all of the elements in the following compounds:



Cu: **28.4%**

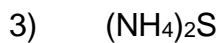
Br: **71.6%**



Na: **57.5%**

O: **40.0%**

H: **2.5%**



N: **41.1%**

H: **11.8%**

S: **47.1%**



N: **30.4%**

S: **69.6%**



K: **25%**

Mn: **35%**

O : **40%**

6) HCl

H: 3%

Cl: 97%

7) $\text{Mg}(\text{NO}_3)_2$

Mg: 16%

N: 19%

O: 65%

8) $(\text{NH}_4)_3\text{PO}_4$

N: 28%

H: 8%

O: 43%

P: 21%

8) $\text{Al}_2(\text{SO}_4)_3$

Al: 16%

S: 28%

O: 56%

Percent Composition Worksheet II

Find the percent compositions of all of the elements in the following compounds:

1) CuBr_2

$$\text{Cu: } 1(63.55) = 63.55 \rightarrow \left(\frac{63.55}{223.35}\right)100 =$$

$$\text{Br: } 2(79.90) = 159.8 \rightarrow \left(\frac{159.8}{223.35}\right)100 =$$

$$\hline 223.35$$

Cu: 28.45%

Br: 71.55%

2) NaOH

$$\text{Na: } 1(22.99) = 22.99 \rightarrow (22.99/40)100 =$$

$$\text{O: } 1(16.00) = 16.00 \rightarrow (16.00/40)100 =$$

$$\text{H: } 1(1.01) = 1.01 \rightarrow (1.01/40)100 =$$

$$\hline 40$$

Na: 57.48%

O: 40.00%

H: 2.53%

3) $(\text{NH}_4)_2\text{S}$

$$\text{N: } 2(14.01) = 28.02 \rightarrow (28.02/68.17)100 =$$

$$\text{H: } 8(1.01) = 8.08 \rightarrow (8.08/68.17)100 =$$

$$\text{S: } 1(32.07) = 32.07 \rightarrow (32.07/68.17)100 =$$

$$\hline 68.17$$

N: 41.10%

H: 11.85%

S: 47.04%

4) N_2S_2

$$\text{N: } 2(14.01) = 28.02 \rightarrow (28.02/92.16)100 =$$

$$\text{S: } 2(32.07) = 64.14 \rightarrow (64.14/92.16)100 =$$

$$\hline 92.16$$

N: 30.40%

S: 69.60%

5) KMnO_4

$$\begin{aligned} \text{K}: 1(39.10) &= 39.10 \rightarrow (39.10/158.04)100 = \\ \text{Mn}: 1(54.94) &= 54.94 \rightarrow (54.94/158.04)100 = \\ \text{O}: 4(16.00) &= 64.00 \rightarrow (64.00/158.04)100 = \\ &\underline{158.04} \end{aligned}$$

$$\text{K}: \underline{24.74\%}$$

$$\text{Mn}: \underline{\cancel{37.93\%}} \quad 34.76\%$$

$$\text{O}: \underline{40.50\%}$$

6) HCl

$$\begin{aligned} \text{H}: 1(1.01) &= 1.01 \rightarrow (1.01/36.46)100 = \\ \text{Cl}: 1(35.45) &= 35.45 \rightarrow (35.45/36.46)100 = \\ &\underline{36.46} \end{aligned}$$

$$\text{H}: \underline{2.77\%}$$

$$\text{Cl}: \underline{97.23\%}$$

7) $\text{Mg}(\text{NO}_3)_2$

$$\begin{aligned} \text{Mg}: 1(24.31) &= 24.31 \rightarrow (24.31/148.33)100 = \\ \text{N}: 2(14.01) &= 28.02 \rightarrow (28.02/148.33)100 = \\ \text{O}: 6(16.00) &= 96.00 \rightarrow (96.00/148.33)100 = \\ &\underline{148.33} \end{aligned}$$

$$\text{Mg}: \underline{16.39\%}$$

$$\text{N}: \underline{18.89\%}$$

$$\text{O}: \underline{64.72\%}$$

8) $(\text{NH}_4)_3\text{PO}_4$

$$\begin{aligned} \text{N}: 3(14.01) &= 42.03 \rightarrow (42.03/149.12)100 = \\ \text{H}: 12(1.01) &= 12.12 \rightarrow (12.12/149.12)100 = \\ \text{P}: 1(30.97) &= 30.97 \rightarrow (30.97/149.12)100 = \\ \text{O}: 4(16.00) &= 64.00 \rightarrow (64.00/149.12)100 = \\ &\underline{149.12} \end{aligned}$$

$$\text{N}: \underline{28.19\%}$$

$$\text{H}: \underline{8.13\%}$$

$$\text{O}: \underline{20.77\%}$$

$$\text{P}: \underline{42.92\%}$$

9) $\text{Al}_2(\text{SO}_4)_3$

$$\begin{aligned} \text{Al}: 2(26.98) &= 53.96 \rightarrow (53.96/342.17)100 = \\ \text{S}: 3(32.07) &= 96.21 \rightarrow (96.21/342.17)100 = \\ \text{O}: 12(16.00) &= 192.00 \rightarrow (192.00/342.17)100 = \\ &\underline{342.17} \end{aligned}$$

$$\text{Al}: \underline{15.77\%}$$

$$\text{S}: \underline{28.12\%}$$

$$\text{O}: \underline{56.11\%}$$