

Composición Porcentual

Comprender el procedimiento para generar la composición porcentual de los elementos de un compuesto

Ejemplo

1. H_2SO_3

$$H: 2 \times 1 = 2 \div 82 = 0.024 \times 100 = 2.4\%$$

$$S: 1 \times 32 = 32 \div 82 = 0.390 \times 100 = 3.9\%$$

$$O: 3 \times 16 = 48 \div 82 = 0.585 \times 100 = 58.5\%$$

82 g/mol

2. C_2H_5Cl

$$C: 2 \times 12 = 24 \div 65 = 0.369 \times 100 = 36.9\%$$

$$H: 5 \times 1 = 5 \div 65 = 0.076 \times 100 = 7.6\%$$

$$Cl: 1 \times 36 = 36 \div 65 = 0.553 \times 100 = 55.3\%$$

65 g/mol

Taller

Calcular la composición porcentual de:

1. H_3PO_4
2. $Pb(OH)_4$
3. $Ni_2(CO_3)_3$
4. H_2SO_4
5. H_2O

Solución

1. H_3PO_4

$$H: 3 \times 1 = 3 \div 98 = 0,030 \times 100 = 3\%$$

$$P: 1 \times 31 = 31 \div 98 = 0,316 \times 100 = 31,6\%$$

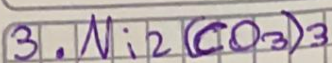
$$O: 4 \times 16 = \frac{64}{98 \text{ g/mol}} \div 98 = 0,653 \times 100 = \frac{65,3\%}{99,9}$$

2. $Pb(OH)_4$

$$Pb: 1 \times 207 = 207 \div 275 = 0,752 \times 100 = 75,2\%$$

$$O: 4 \times 16 = 64 \div 275 = 0,232 \times 100 = 23,2\%$$

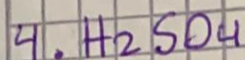
$$H: 4 \times 1 = \frac{4}{275 \text{ g/mol}} \div 275 = 0,014 \times 100 = \frac{1,4\%}{99,8}$$



$$\text{Ni} : 2 \times 58 = 116 \div 296 = 0,391 \times 100 = 39,1\%$$

$$\text{C} : 3 \times 12 = 36 \div 296 = 0,121 \times 100 = 12,1\%$$

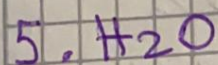
$$\text{O} : 9 \times 16 = \frac{144}{296 \text{ g/mol}} \div 296 = 0,486 \times 100 = \frac{48,6\%}{99,8}$$



$$\text{H} : 2 \times 1 = 2 \div 98 = 0,020 \times 100 = 2\%$$

$$\text{S} : 1 \times 32 = 32 \div 98 = 0,326 \times 100 = 32,6\%$$

$$\text{O} : 4 \times 16 = \frac{64}{98 \text{ g/mol}} \div 98 = 0,653 \times 100 = \frac{65,3\%}{99,9}$$



$$\text{H} : 2 \times 1 = 2 \div 3 = 0,666 \times 100 = 66,6\%$$

$$\text{O} : 1 \times 1 = \frac{1}{3 \text{ g/mol}} \div 3 = 0,333 \times 100 = \frac{33,3\%}{99,9}$$