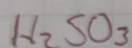


Composición porcentual

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

Ejemplo:

1) Identificar la composición porcentual del ácido sulfuroso H_2SO_3

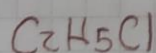


$$\text{H: } 2 \times 1 = 2 \div 82 = 0,024 \times 100 = 2,8\%$$

$$\text{S: } 1 \times 32 = 32 \div 82 = 0,390 \times 100 = 39\%$$

$$\text{O: } 3 \times 16 = \frac{48}{82 \text{ g/mol}} \div 82 = 0,585 \times 100 = 58,5\%$$

2) Identificar la composición porcentual del cloruro de etilo $\text{C}_2\text{H}_5\text{Cl}$



$$\text{C: } 2 \times 12 = 24 \div 65 = 0,369 \times 100 = 36,9\%$$

$$\text{H: } 5 \times 1 = 5 \div 65 = 0,076 \times 100 = 7,6\%$$

$$\text{Cl: } 1 \times 36 = \frac{36}{65 \text{ g/mol}} \div 65 = 0,553 \times 100 = 55,3\%$$

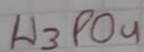
Ejercicios:

Calcular la composición porcentual de:

- ① H_3PO_4 : Ácido fosfórico
- ② $Pb(OH)_4$: Hidróxido de Plomo (IV)
- ③ $Ni_2(CO_3)_3$: Carbonato de níquel III
- ④ H_2SO_4 : Ácido sulfúrico
- ⑤ H_2O : Agua

Solución

①



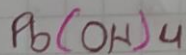
$$H: 3 \times 1 = 3 \div 98 = 0,030 \times 100 = 3 \%$$

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

$$O: 4 \times 16 = 64 \div 98 = 0,653 \times 100 = 65,3 \%$$

98 g/mol

②



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

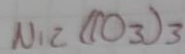
$$O: 4 \times 16 = 64 \div 275 = 0,232 \times 100 = 23,2 \%$$

$$H: 4 \times 1 = 4 \div 275 = 0,014 \times 100 = 1,4 \%$$

275 g/mol

Scribe

3

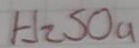


$$\text{Ni}: 2 \times 58 = 116 \div 296 = 0,391 \times 100 = 39,1 \%$$

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

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

4



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

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

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

5



$$\text{H} = 2 \times 1 = 2 \div 18 = 0,111 \times 100 = 11,1 \%$$

$$\text{O} = 1 \times 16 = \frac{16}{18 \text{ g/mol}} \div 18 = 0,888 \times 100 = 88,8 \%$$