

Ejercicios =

1) Obtenga la fórmula empírica y molecular si tiene 48% de carbono, 4% de hidrógeno, 22.4% de Nitrógeno, 12.8% de Azufre, 12.8 de Oxígeno y masa de 1.000 gramos.

Respuesta =

$$C = 48 \div 12 = 4 \div 0.4 = 10$$

$$H = 4 \div 1 = 4 \div 0.4 = 10$$

$$N = 22.4 \div 14 = 1.6 \div 0.4 = 4$$

$$S = 12.8 \div 32 = 0.4 \div 0.4 = 1$$

$$O = 12.8 \div 16 = 0.8 \div 0.4 = 2$$

Fórmula Empírica $C_{10}H_{10}N_4SO_2$ masa 1000g

$$10 \times 12 = 120$$

$$10 \times 1 = 10$$

$$4 \times 14 = 56$$

$$1 \times 32 = 32$$

$$2 \times 16 = 32$$

$$\begin{array}{r} 120 \\ 10 \\ 56 \\ 32 \\ \hline 243 \end{array}$$

$$- 3$$

$$56$$

$$32$$

$$32$$

$$\hline 243$$

$$\downarrow$$

$$1000 \div 243 = 4$$

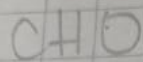
Fórmula Empírica $C_{40}H_{40}N_{16}S_4O_8$

3) Obtenga la fórmula empírica y molecular si hay carbono 40%, Hidrogeno 6.7% y Oxigeno 53.3% con masa de 40 gramos

$$C = 40 \div 12 = 3,33 \div 33,3 = 1$$

$$H = 6,7 \div 1 = 6,7 \div 33,3 = 1$$

$$O = 53,3 \div 16 = 33,3 \div 33,3 = 1$$



$$12 \times 1 = 12$$

$$90 \div 29 = 3$$

$$1 \times 1 = 1$$

$$\frac{16 \times 1 = 16}{29}$$

Fórmula Molecular

