

Formula empirica = NaClO_3

2. Junio - 2011

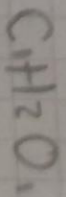
Ejercicios

1. 654 g de la formula empirica y molecular si hay Carbono 90%, hidrogeno 6.7% y oxigeno 3.3% con una masa de 40 gramos.

$$\text{C} = \frac{40 \text{ g}}{12 \text{ g/mol}} = 3.33 = \frac{3.33}{3.33} = 1$$

$$\text{H} = \frac{6.7 \text{ g}}{1 \text{ g/mol}} = 6.7 = \frac{6.7}{5.33} = 2$$

$$\text{O} = \frac{53.3 \text{ g}}{16 \text{ g/mol}} = 3.33 = \frac{3.33}{3.33} = 1$$



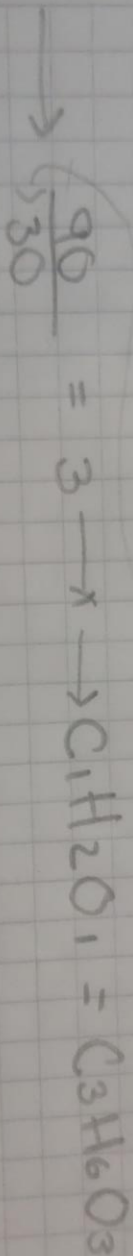
Molecular

$$C = 12 \times 1 = 12$$

$$H = 1 \times 2 = 2$$

$$O = 16 \times 1 = \frac{16}{30}$$

$$= 30 \text{ g}$$



2. Obtenga la fórmula empírica y molecular si tiene
98% carbono, 4% hidrógeno y 22.4% hidrógeno y masa de 1000 g.
Azufre 12.8%, oxígeno 12.8% y masa de 1000 g.

$$n | C = \frac{98 \text{ g}}{12 \text{ g/mol}}$$

$$= 4$$

$$= \frac{48}{0.9}$$

$$= 120$$

$$= 10$$

10% carbono, 4% hidrogeno, 12.8% oxigeno y masa de 1000 g.

$$n | C = \frac{9.8g}{12g/mol} = 4 = \frac{48}{0.4} = 120$$

$$H = \frac{4g}{1g/mol} = 4 = \frac{4}{0.4} = 10$$

$$N = \frac{12.4g}{14g/mol} = 1.6 = \frac{22.4}{0.4} = 56 \text{ C}_{120}\text{H}_{10}\text{N}_{56}\text{S}_{32}\text{O}_9$$

$$S = \frac{12.8g}{32g/mol} = 0.4 = \frac{12.8}{0.4} = 32$$

$$O = \frac{12.8g}{16g/mol} = 0.8 = \frac{12.8}{0.4} = 32$$

$$C = 12 \times 120 = 1440$$

$$H = 1 \times 10 = 10$$

$$N = 14 \times 56 = 784$$

$$S = 32 \times 32 = 1024$$

$$O = 16 \times 32 = 512$$

$$= 3770$$

$$\frac{1000}{3770} = 0.265$$

