

Mole Quiz Warm Up

You need your PT & calculator.

What is the % comp of Br in MgBr₂?

$$\text{Br: } \frac{2(79.90\text{g})}{184.11\text{g}} \times 100 = 86.80\% \text{ Br}$$

How many molecules are in 5.00g H₂O?

$$\left(\frac{5.00\text{g H}_2\text{O}}{1} \right) \left(\frac{1 \text{ mol H}_2\text{O}}{18.02\text{g H}_2\text{O}} \right) \left(\frac{6.02 \times 10^{23} \text{ molecules H}_2\text{O}}{1 \text{ mol H}_2\text{O}} \right)$$

$$= 1.67 \times 10^{23} \text{ molecules H}_2\text{O}$$

How many atoms of Cl in 12.5g BaCl₂?

$$\left(\frac{12.5\text{g BaCl}_2}{1}\right) \left(\frac{1\text{mol BaCl}_2}{208.23\text{gBaCl}_2}\right) \left(\frac{6.02 \times 10^{23}\text{f.u. BaCl}_2}{1\text{ mol BaCl}_2}\right) \left(\frac{2\text{ atoms Cl}}{1\text{ f.u. BaCl}_2}\right)$$

1 mol Cl

$$= 7.23 \times 10^{22} \text{ atoms}$$

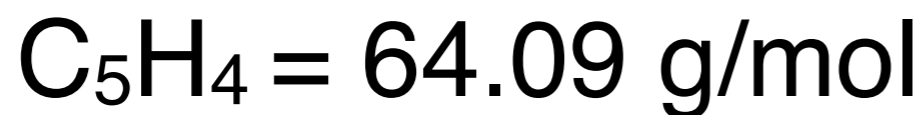
Find the empirical formula for a compound that is 88.8% copper and 11.2% oxygen and name it.

$$\left(\frac{88.8\text{g Cu}}{1}\right)\left(\frac{1\text{ mol Cu}}{63.55\text{g Cu}}\right) = \frac{1.40\text{ mol Cu}}{0.700} = 2\text{ mol Cu}$$

$$\left(\frac{11.2\text{g O}}{1}\right)\left(\frac{1\text{ mol O}}{16.00\text{g O}}\right) = \frac{0.700\text{ mol O}}{0.700} = 1\text{ mol O}$$

Cu_2O
copper(I) oxide

Naphthalene is a carbon and hydrogen containing compound often used in moth balls. The empirical formula is C₅H₄ and its molar mass is 128.16 g/mol. Find the molecular formula.



$$\frac{128.16 \text{ g/mol}}{64.09 \text{ g/mol}} = 2$$

