Answer on Question #62260 - Chemistry - General Chemistry

Question

What is the empirical formula of a compound composed of 27.9 g potassium (K) and 5.71 g oxygen (O)?

Solution:

The chemical formula of compound is K_xO_y.

$$x:y = \vartheta(K):\vartheta(O) = \frac{m(K)}{M(K)}:\frac{m(O)}{M(O)} = \frac{27.9}{39}:\frac{5.71}{16} = 0.715:0.357 = 2:1$$

Thus the empirical formula of a compound is K_2O.

Answer: the empirical formula of a compound is K_2O