**The Mole: Empirical and Molecular Formula: Quiz 5c**

**Make sure to SHOW ALL WORK and INCLUDE UNITS!**

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1. A white powder used in paints, enamels and ceramics has the following composition:

“Ba” 69.58%, “C” 6.090%, and “O” 24.32%.

***Determine its empirical formula.***

Answers:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Element** | **Mass** | **Atomic Mass** | **Moles** | **Moles**  **Smallest moles** | **Simplest Whole # Ratio** |
| barium | 69.58 g | 137.33 g/mol | 0.5068 mol | 0.5068 = 1  0.5068 | **1** |
| carbon | 6.090 g | 12.01 g/mol | 0.5075 mol | 0.5075 = 1.001  0.5068 | **1** |
| oxygen | 24.32 g | 16.00 g/mol | 1.52 mol | 1.52 = 2.999  0.5068 | **3** |



**BaCO3**