- A white powder used in paints, enamels and ceramics has the following mass percentage: 69.6% Ba; 6.09% C; 24.3% O. What is its empirical formula?

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	Ba	**C**	**O**
amount in 100 g	**69.6**	**6.09**	**24.3**
ratio (divide by atomic mass)	$\frac{69.6}{137.34} = 0.507$	$\frac{6.09}{12.01} = 0.507$	$\frac{24.3}{16.00} = 1.52$
divide by smallest	$\frac{0.507}{0.507} \sim 1$	$\frac{0.507}{0.507} \sim 1$	$\frac{1.52}{0.507} \sim 3$

The simplest possible ratio of Ba:C:O is thus 1:1:3 and the empirical formula is $BaCO_3$.

Answer: **$BaCO_3$**