

- Three different oxides of lead are known. The oxide that is red in colour is found to consist of 90.67 % lead. What is its empirical formula?

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The oxide contains 90.67 % Pb and so 9.33 % O.

	Pb	O
percentage	90.67	9.33
divide by atomic mass	$\frac{90.67}{207.2} = 0.438$	$\frac{9.33}{16.00} = 0.583$
divide by smallest value	1	1.33

The ratio of Pb : O is 1 : 1.33 or 3: 4. The empirical formula is thus Pb₃O₄.

Answer: **Pb₃O₄**