

# Worksheet 6.5

## Empirical formulae

1 What is an empirical formula for a compound?

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2 Calculate the empirical formulae of the following compounds.

(Relative atomic masses: H = 1, C = 12, N = 14, O = 16, S = 32, K = 39, Fe = 56)

a A compound containing 3.5 g nitrogen and 4 g oxygen only.

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b A compound of 50% oxygen and 50% sulfur.

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c A compound of 39% potassium, 1% hydrogen, 12% carbon and 48% oxygen.

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d 16.0 g of an oxide of iron formed from 11.2 g iron.

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3 A compound contains 4.04% hydrogen, 24.24% carbon and 71.72% chlorine.

Relative atomic masses: H = 1, C = 12, Cl = 35.5

Relative molecular mass of the compound = 99

Given this information, find the empirical formula and the molecular formula of the compound.

a Empirical formula:

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b Molecular formula:

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