

So you have sulfur chloride with molecular mass 103. Look, only two elements can form this compound, furthermore compound includes even number of chlorine, because 103 is full number.

If a compound includes only two atoms of chlorine, the rest of Mw belongs to Sulfur:

$$dMw = 103 - 2 \cdot 35.5 = 32.$$

32 it's exactly the mass that corresponds to one sulfur atom.

So empirical formula is:

