

### Question #72324, Chemistry / Inorganic Chemistry

A metal x forms two different chloride each 12.70g of chloride A and 16.30g of chloride B contain 7.10g and 10.70g of chlorine respectively. Which gravimetric law would it be in accordance with

**Solution:**

It is in accordance with the law of multiple proportions. It says that If two elements form more than one compound between them, then the ratios of the masses of the second element which combine with a fixed mass of the first element will be ratios of small whole numbers

	A	B
Total mass	12,7	16,3
Mass of Cl	7,1	10,7
Ratio of Cl	0,559	0,656
Ratio of Me	0,441	0,344

A:

$$\text{Ratio of Me : Ratio of Cl} = 0,441:0,559 = 1: 1,267$$

B:

$$\text{Ratio of Me : Ratio of Cl} = 0,344:0,656 = 1 : 1,907$$

$$1,276 : 1,907 = 1: 1,5 = 2: 3$$

**Answer:**

The law of multiple proportions

Answer provided by AssignmentExpert.com