

Ionic Compounds Atoms that can have more than one charge.

Most atoms that form positive ions do so predictably because of the # of electrons in the VALENCE shell.

group 1 - +1 charge (Alkali metals, Li, Na, K...)

group 2 - +2 " (Alkaline Earth metals, Be, Mg, Ca...)

group 13 - +3 " (Al, Ga, In...)

BUT... **Transition Metals** (groups 3 - 10) can form more than one + ion.

examples:

	symbol	charges	Roman Numerals
Copper	Cu	+1, +2	I, II
Iron	Fe	+2, +3	II, III
Lead	Pb	+2, +4	II, IV
Tin	Sn	+2, +4	II, IV

How do you write the names for these ionic compounds that can have more than one charge?

First determine the charge of the + ion and use ROMAN NUMERALS.

Ex: Write the name for CuCl_2

most be $\text{Cu}^{(II)}$ \Rightarrow Total charge
 Name: Copper(II) chloride

Ques: Is there a Copper(I) chloride?

$\text{Cu}^+ \text{Cl}^-$
 ~~CuCl~~

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