

Rule:

Name of element + "ion"

Examples:

 $\begin{array}{lll} Na^+ & sodium \ ion \\ Mg^{2+} & magnesium \ ion \\ H^+ & hydrogen \ ion \\ K^+ & potassium \ ion \\ Sr^{2+} & strontium \ ion \\ Cs^+ & cesium \ ion \\ Ca^{2+} & calcium \ ion \end{array}$

Comment:

The number of positive charges is **NOT** indictated in the name because it is not necessary. These ions **NEVER** take on two possible positive charges.

Comment:

Hydrogen will take on a negative one charge (see monoatomic anions for naming.

More Than One

Ion Possible

Cations (Positive Ions)

Rule:

(a) newer rule - positive charges indicated by a Roman numeral

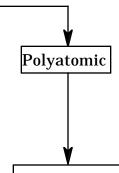
Examples:

 $\begin{array}{lll} Fe^{2+} & iron(II) \ ion \\ Fe^{3+} & iron(III) \ ion \\ Cu^+ & copper(I) \ ion \\ Cu^{2+} & copper(II) \ ion \end{array}$

(b) older rule (but still used) - Latin stem + "ous" for the lesser charge. Latin stem + "ic" for the greater charge.

Examples:

| $\mathrm{Fe^{2+}}$ | ferrous ion |
|--------------------|--------------|
| $\mathrm{Fe^{3+}}$ | ferric ion |
| Cu+ | cuprous ion |
| Cu ²⁺ | cupric ion |
| Sn ²⁺ | stannous ion |
| Sn ⁴⁺ | stannic ion |



Rule: ??

Examples:

 $\begin{array}{ccc} NH_{4}{}^{+} & ammonium \\ Hg_{2}{}^{2+} & mercury(I) \ ion \\ & or \ mercurous \ ion \end{array}$

Comment:

 Hg_2^{2+} is two Hg^+ ions bonded together, like this: Hg^+ — Hg^+

However, Hg^+ by itself does not exist, therefore mercury(I) ion is Hg_2^{2+}

(Also, Hg^{2+} is mercury(II), but that is a monoatomic ion.)