

Ion List

Important Monatomic and Polyatomic Ions

Note: When writing a charge of 1+ or 1-, the "1" is usually not included. Writing either way is acceptable, e.g. H¹⁺ or H⁺.

Most elements in the representative groups (s & p block) will form ions based on their valence electrons.

Naming: element name + "ion"
ex. H⁺ = hydrogen ion

Naming: all endings change to -ide + "ion"
ex. F⁻ = fluoride ion

Group **1 (1A)** elements form **1+** ions
ex. Li⁺ = lithium ion

Group **15 (5A)** elements form **3-** ions
ex. N³⁻ = nitride ion

Group **2 (2A)** elements form **2+** ions
ex. Mg²⁺ = magnesium ion

Group **16 (6A)** elements form **2-** ions
ex. O²⁻ = oxide ion

Group **13 (3A)** elements form **3+** ions
ex. Al³⁺ = aluminum ion

Group **17 (7A)** elements form **1-** ions
ex. Cl⁻ = chloride ion

MEMORIZE THESE IONS!CATIONS

Cu⁺ Copper (I) ion
Ag⁺ Silver ion (always 1+ ion)

NH₄⁺ Ammonium ion

Cu²⁺ Copper (II) ion
Hg²⁺ Mercury (II) ion
Pb²⁺ Lead (II) ion
Sn²⁺ Tin (II) ion
Fe²⁺ Iron (II) ion
Zn²⁺ Zinc ion (always a 2+ ion)

Fe³⁺ Iron (III) ion

Pb⁴⁺ Lead (IV) ion
Sn⁴⁺ Tin (IV) ion

ANIONS

CN⁻ Cyanide ion
OH⁻ Hydroxide ion
NO₂⁻ Nitrite ion
NO₃⁻ Nitrate ion
C₂H₃O₂⁻ Acetate ion
MnO₄⁻ Permanganate ion

SO₃²⁻ Sulfite ion
SO₄²⁻ Sulfate ion
CO₃²⁻ Carbonate ion
CrO₄²⁻ Chromate ion

PO₄³⁻ Phosphate ion

Note: A roman numeral in parentheses represents the positive charge of the ion.

Ex: Iron (II) = Fe²⁺
Tin (IV) = Sn⁴⁺