

Common Ions and Their Charges

A mastery of the common ions, their formulas and their charges, is essential to success in AP Chemistry. You are expected to know all of these ions on the first day of class, when I will give you a quiz on them. You will always be allowed a periodic table, which makes indentifying the ions on the left "automatic." For tips on learning these ions, see the opposite side of this page.

From the table:	
Cations	Name
H ⁺	Hydrogen
Li ⁺	Lithium
Na ⁺	Sodium
K ⁺	Potassium
Rb ⁺	Rubidium
Cs ⁺	Cesium
Be ²⁺	Beryllium
Mg ²⁺	Magnesium
Ca ²⁺	Calcium
Ba ²⁺	Barium
Sr ²⁺	Strontium
Al ³⁺	Aluminum
Anions	Name
H ⁻	Hydride
F ⁻	Fluoride
Cl ⁻	Chloride
Br ⁻	Bromide
I ⁻	Iodide
O ²⁻	Oxide
S ²⁻	Sulfide
Se ²⁻	Selenide
N ³⁻	Nitride
P ³⁻	Phosphide
As ³⁻	Arsenide
Type II Cations	Name
Fe ³⁺	Iron(III)
Fe ²⁺	Iron(II)
Cu ²⁺	Copper(II)
Cu ⁺	Copper(I)
Co ³⁺	Cobalt(III)
Co ²⁺	Cobalt(II)
Sn ⁴⁺	Tin(IV)
Sn ²⁺	Tin(II)
Pb ⁴⁺	Lead(IV)
Pb ²⁺	Lead(II)
Hg ²⁺	Mercury(II)

Ions to Memorize	
Cations	Name
Ag ⁺	Silver
Zn ²⁺	Zinc
Hg ₂ ²⁺	Mercury(I)
NH ₄ ⁺	Ammonium
Anions	Name
NO ₂ ⁻	Nitrite
NO ₃ ⁻	Nitrate
SO ₃ ²⁻	Sulfite
SO ₄ ²⁻	Sulfate
HSO ₄ ⁻	Hydrogen sulfate (bisulfate)
OH ⁻	Hydroxide
CN ⁻	Cyanide
PO ₄ ³⁻	Phosphate
HPO ₄ ²⁻	Hydrogen phosphate
H ₂ PO ₄ ⁻	Dihydrogen phosphate
NCS ⁻	Thiocyanate
CO ₃ ²⁻	Carbonate
HCO ₃ ⁻	Hydrogen carbonate (bicarbonate)
ClO ⁻	Hypochlorite
ClO ₂ ⁻	Chlorite
ClO ₃ ⁻	Chlorate
ClO ₄ ⁻	Perchlorate
BrO ⁻	Hypobromite
BrO ₂ ⁻	Bromite
BrO ₃ ⁻	Bromate
BrO ₄ ⁻	Perbromate
IO ⁻	Hypoiodite
IO ₂ ⁻	iodite
IO ₃ ⁻	iodate
IO ₄ ⁻	Periodate
C ₂ H ₃ O ₂ ⁻	Acetate
MnO ₄ ⁻	Permanganate
Cr ₂ O ₇ ²⁻	Dichromate
CrO ₄ ²⁻	Chromate
O ₂ ²⁻	Peroxide
C ₂ O ₄ ²⁻	Oxalate
NH ₂ ⁻	Amide
BO ₃ ³⁻	Borate
S ₂ O ₃ ²⁻	Thiosulfate