

Common Ions

Used in Chemical Nomenclature

CATIONS

Single Oxidation State

<i>Name</i>	<i>Formula and Charge</i>
hydrogen ion	H^+
lithium ion	Li^+
sodium ion	Na^+
potassium ion	K^+
rubidium ion	Rb^+
ammonium ion	NH_4^+
silver ion	Ag^+
beryllium ion	Be^{+2}
magnesium ion	Mg^{+2}
calcium ion	Ca^{+2}
strontium ion	Sr^{+2}
barium ion	Ba^{+2}
zinc ion	Zn^{+2}
cadmium ion	Cd^{+2}
aluminum ion	Al^{+3}

Multiple Oxidation States

<i>IUPAC Name</i>	<i>Common Name</i>	<i>Formula and Charge</i>
copper(I) ion	cuprous ion	Cu^+
copper(II) ion	cupric ion	Cu^{+2}
iron(II) ion	ferrous ion	Fe^{+2}
iron(III) ion	ferric ion	Fe^{+3}
tin(II) ion	Stannous ion	Sn^{+2}
tin(IV) ion	Stannic ion	Sn^{+4}
mercury(I) ion	mercurous ion	Hg_2^{+2}
mercury(II) ion	mercuric ion	Hg^{+2}
lead(II) ion	plumbous ion	Pb^{+2}
lead(IV) ion	plumbic ion	Pb^{+4}
nickel(II) ion	nickelous ion	Ni^{+2}
nickel(III) ion	nickelic ion	Ni^{+3}
chromium(II) ion	chromous ion	Cr^{+2}
chromium(III) ion	chromic ion	Cr^{+3}
cobalt(II) ion	cobaltous ion	Co^{+2}
cobalt(III) ion	cobaltic ion	Co^{+3}

ANIONS

"ide" Ending

<i>Name</i>	<i>Formula and Charge</i>
fluoride ion	F^-
chloride ion	Cl^-
bromide ion	Br^-
iodide ion	I^-
hydride ion	H^-
hydroxide ion	OH^-
cyanide ion	CN^-
sulfide ion	S^{2-}
bisulfide ion	HS^-
(hydrogen sulfide ion)	
oxide ion	O^{2-}

"ate" Ending

<i>Name</i>	<i>Formula and Charge</i>
Oxalate Ion	$C_2O_4^{2-}$
Peroxide Ion	O_2^{2-}
Thiocyanate Ion	CNS^-
Thiosulfate Ion	$S_2O_3^{2-}$

"ate" Ending

<i>Name</i>	<i>Formula and Charge</i>
chlorate ion	ClO_3^-
bromate ion	BrO_3^-
iodate ion	IO_3^-
nitrate ion	NO_3^-
sulfate ion	SO_4^{2-}
bisulfate ion	HSO_4^-
(hydrogen sulfate ion)	
carbonate ion	CO_3^{2-}
bicarbonate ion	HCO_3^-
(hydrogen carbonate)	
phosphate ion	PO_4^{3-}
arsenate ion	AsO_4^{3-}
silicate ion	SiO_3^{2-}
chromate ion	CrO_4^{2-}
dichromate ion	$Cr_2O_7^{2-}$
acetate ion	$C_2H_3O_2^-$
permanganate ion	MnO_4^-

LIST OF COMMON ANIONS & CATIONS

Learn to match the names and formulas for the following monoatomic (m) and polyatomic (p) ions

Name	Formula & Charge	Type of Ion
chloride	Cl^{-1}	anion (m)
fluoride	F^{-1}	anion (m)
iodide	I^{-1}	anion (m)
oxide	O^{-2}	anion (m)
sulfide	S^{-2}	anion (m)
hydroxide	OH^{-1}	anion (p)
nitrate	NO_3^{-1}	anion (p)
bicarbonate	HCO_3^{-1}	anion (p)
acetate	$\text{C}_2\text{H}_3\text{O}_2^{-1}$	anion (p)
sulfate	SO_4^{-2}	anion (p)
carbonate	CO_3^{-2}	anion (p)
phosphate	PO_4^{-3}	anion (p)
hydrogen ion	H^{+1}	cation (m)
lithium ion	Li^{+1}	cation (m)
sodium ion	Na^{+1}	cation (m)
potassium ion	K^{+1}	cation (m)
ammonium ion	NH_4^{+1}	cation (p)
magnesium ion	Mg^{+2}	cation (m)
calcium ion	Ca^{+2}	cation (m)
strontium ion	Sr^{+2}	cation (m)
barium ion	Ba^{+2}	cation (m)
zinc ion	Zn^{+2}	cation (m)
iron (II) ion	Fe^{+2}	cation (m)
iron (III) ion	Fe^{+3}	cation (m)
aluminum ion	Al^{+3}	cation (m)