Common Ions

Ions are atoms or groups of connected atoms that have an overall positive or negative charge. The charge of a group(s) of atoms is written as a superscript to the right of the element symbol. Ions that consist of only one atom may be called monoatomic ions while ions made of 2 or more atoms are called polyatomic ions.

Cations: Ions that have a positive (+) charge

+1 Charge		+2 Charge		+3 Charge	
Name	**Symbol**	**Name**	**Symbol**	**Name**	**Symbol**
Hydrogen Ion	H^{+1}	Beryllium Ion	Be^{+2}	Aluminum Ion	Al^{+3}
Lithium Ion	Li^{+1}	Magnesium Ion	Mg^{+2}		
Sodium Ion	Na^{+1}	Calcium Ion	Ca^{+2}		
Potassium Ion	K^{+1}	Strontium ion	Sr^{+2}		
Rubidium Ion	Rb^{+1}	Barium Ion	Ba^{+2}		
Cesium Ion	Cs^{+1}	Cadmium Ion	Cd^{+2}		
Silver Ion	Ag^{+1}	Zinc Ion	Zn^{+2}		

Anions: Ions that have a negative (-) charge

-1 Charge		-2 Charge		-3 Charge	
Name	**Symbol**	**Name**	**Symbol**	**Name**	**Symbol**
Fluoride	F^{-1}	Oxide	O^{-2}	Nitride	N^{-3}
Chloride	Cl^{-1}	Sulfide	S^{-2}	Phosphide	P^{-3}
Bromide	Br^{-1}	Selenide	Se^{-2}		
Iodide	I^{-1}				

Transition Metals: Cations with more than 1 possible charge

+1 and +2			+2 and +3			+2 and +4		
Name	**Symbol**	**Classical Name**	**Name**	**Symbol**	**Classical Name**	**Name**	**Symbol**	**Classical Name**
Copper (I)	Cu^{+1}	Cuprous	Iron (II)	Fe^{+2}	Ferrous	Lead (II)	Pb^{+2}	Plumbous
Copper (II)	Cu^{+2}	Cupric	Iron (III)	Fe^{+3}	Ferric	Lead (IV)	Pb^{+4}	Plumbic
Mercury (I)	Hg_2^{+2}	Mercurous	Chromium (II)	Cr^{+2}	Chromous	Tin (II)	Sn^{+2}	Stannous
Mercury (II)	Hg^{+2}	Mercuric	Chromium (III)	Cr^{+3}	Chromic	Tin (IV)	Sn^{+4}	Stannic
			Manganese (II)	Mn^{+2}	Manganous			
			Manganese (III)	Mn^{+3}	Manganic			
			Cobalt (II)	Co^{+2}	Cobaltous			
			Cobalt (III)	Co^{+3}	Cobaltic			

Polyatomic Ions – Ions that are made of 2 or more different elements

-1		-2		-3		+1	
Name	**Formula**	**Name**	**Formula**	**Name**	**Formula**	**Name**	**Formula**
Acetate	$C_2H_3O_2^{-1}$	Oxalate	$C_2O_4^{-2}$			Ammonium	NH_4^{+1}
Hydroxide	OH^{-1}	Silicate	SiO_3^{-2}				
Permanganate	MnO_4^{-1}	Chromate	CrO_4^{-2}				
Cyanide	CN^{-1}	Dichromate	$Cr_2O_7^{-2}$				
Nitrate	NO_3^{-1}						
Nitrite	NO_2^{-1}						
Perchlorate	ClO_4^{-1}						
Chlorate	ClO_3^{-1}						
Chlorite	ClO_2^{-1}						
Hypochlorite	ClO^{-1}						
Dihydrogen phosphate	$H_2PO_4^{-1}$	Hydrogen phosphate	HPO_4^{-2}	Phosphate Phosphite	PO_4^{-3} PO_3^{-3}		
Hydrogen carbonate	HCO_3^{-1}	Carbonate	CO_3^{-2}				
Hydrogen sulfate	HSO_4^{-1}	Sulfate	SO_4^{-2}				
Hydrogen sulfite	HSO_3^{-1}	Sulfite	SO_3^{-2}				

Elements

Element	Symbol
Hydrogen	H
Helium	He
Lithium	Li
Beryllium	Be
Boron	B
Carbon	C
Nitrogen	N
Oxygen	O
Fluorine	F
Neon	Ne
Sodium	Na
Magnesium	Mg
Aluminum	Al
Silicon	Si
Phosphorus	P
Sulfur	S
Selenium	Se
Chlorine	Cl
Argon	Ar
Potassium	K
Calcium	Ca
Titanium	Ti
Chromium	Cr
Manganese	Mn
Iron	Fe
Cobalt	Co
Nickel	Ni
Copper	Cu
Zinc	Zn
Bromine	Br
Krypton	Kr
Rubidium	Rb
Strontium	Sr
Silver	Ag
Tin	Sn
Iodine	I
Xenon	Xe
Cesium	Cs
Barium	Ba
Gold	Au
Mercury	Hg
Lead	Pb
Cadmium	Cd
Francium	Fr
Radium	Ra
Platinum	Pt
Astatine	At
Arsenic	As