

Table of Some Common Ions and Acids

+1	
Ammonium	NH ₄
Copper (I) or Cuprous	Cu
Hydrogen	H
Lithium	Li
Potassium	K
*Mercury (I) or	
Mercurous	Hg ₂
Sodium	Na
*Mercury (I) ions occur as groups of two (2) so; its symbol is Hg ₂ and its total charge is +2	

+2	
Barium	Ba
Beryllium	Be
Cadmium	Cd
Calcium	Ca
Cobalt (II)	Co
Chromium (II)	Cr
Copper (II) or Cupric	Cu
Iron (II) or Ferrous	Fe
Lead (II) or Plumbous	Pb
Magnesium	Mg
Manganese	Mn
Mercury (II) or Mercuric	Hg
Nickel (II)	Ni
Strontium	Sr
Tin (II) or Stannous	Sn
Zinc	Zn

+3	
Aluminum	Al
Chromium (III)	Cr
Antimony (III)	Sb
Bismuth	Bi
Iron (III)	Fe
Arsenic	As

+4	
Lead (IV) or Plumbic	Pb
Tin (IV) or Stannic	Sn
Carbon	C
Silicon	Si

+5	
Antimony (V)	Sb
Arsenic (V)	As
Bismuth (V)	Bi

-1	
Acetate	C ₂ H ₃ O ₂
Bromate	BrO ₃
Bromide	Br
Chlorate	ClO ₃
Chlorite	ClO ₂
Chloride	Cl
Cyanide	CN
Fluoride	F
Hydride	H
Hydrogen Carbonate or Bicarbonate	HCO ₃
Hydrogen Sulfate or Bisulfate	HSO ₄
Hydrogen Sulfite or Bisulfite	HSO ₃
Hydroxide	OH
Hypochlorite	ClO
Hydrogen Sulfide	HS
Iodate	IO ₃
Iodide	I
Nitrate	NO ₃
Nitrite	NO ₂
Perchlorate	ClO ₄
Permanganate	MnO ₄
Thiocyanate	SCN

-2	
Carbonate	CO ₃
Chromate	CrO ₄
Cyanamide	CN ₂
Dichromate	Cr ₂ O ₇
Hydrogen Phosphate	HPO ₄
Oxalate	C ₂ O ₄
Oxide	O
Peroxide	O ₂
Stannate	SnO ₃
Stannite	SnO ₂
Sulfate	SO ₄
Sulfite	SO ₃
Sulfide	S
Tartrate	C ₄ H ₄ O ₆

-3	
Borate	BO ₃
Hexacyanoferrate (III) or Ferricyanide	Fe(CN) ₆
Phosphate	PO ₄
Phosphite	PO ₃
Phosphide	P
Nitride	N

-4	
Hexacyanoferrate (II) or Ferrocyanide	Fe(CN) ₆
Silicate	SiO ₄

Mechanisms and rules for writing chemical formulas:

THE CRISS-CROSS METHOD

RULE 1: The resulting formula for a compound must have a total charge of zero (0).

RULE 2: Write the positive ion first and cross the valences.

RULE 3: Do not cross any signs.

RULE 4: Don't cross any ones.

RULE 5: If both valences are the same, don't cross them.

RULE 6: More than one atom, more than one time, use parentheses

RULE 7: If the final answer has subscripts that can be reduced, they must be reduced.

RULE 8: If the name of the compound has prefixes in it, change the prefixes to subscripts and do not cross the valences.

Some Common Acids

Acetic	HC ₂ H ₃ O ₂
Carbonic	H ₂ CO ₃
Hydrochloric	HCl
Hydrobromic	HBr
Hydrofluoric	HF
Nitric	HNO ₃
Phosphoric	H ₃ PO ₄
Sulfuric	H ₂ SO ₄