

Main Ions



<u>Group 6</u>	<u>Group 7</u>		<u>Group 13</u>	<u>Group 14</u>	<u>Group 15</u>
CrO ₄ ²⁻ : chromate	MnO ₄ ²⁻ : manganate		BO ₂ ⁻ : metaborate	CO ₃ ²⁻ : carbonate	NO ₂ ⁻ : nitrite
Cr ₂ O ₇ ²⁻ : dichromate	MnO ₄ ⁻ : permanganate		BO ₃ ³⁻ : borate	CN ⁻ : cyanide	NO ₃ ⁻ : nitrate
				SCN ⁻ : thiocyanate	PO ₃ ⁻ : metaphosphate
<u>Group 1</u>				C ₂ O ₄ ²⁻ : oxalate	P ₂ O ₇ ⁴⁻ : diphosphate
H ⁻ : hydride				HCOO ⁻ : formate	PO ₄ ³⁻ : phosphate
				or methanoate	PO ₃ ³⁻ : phosphite
<u>Group 16</u>	<u>Group 17</u>			SiO ₃ ²⁻ : metasilicate	AsO ₃ ³⁻ : arsenite
O ²⁻ : oxide	F ⁻ : fluoride			SiO ₄ ⁴⁻ : silicate	AsO ₄ ³⁻ : arsenate
O ₂ ²⁻ : peroxide	Cl ⁻ : chloride				SbO ₃ ³⁻ : antimonite
OH ⁻ : hydroxide	ClO ⁻ : hypochlorite				SbO ₄ ³⁻ : antimonate
S ²⁻ : sulfide	ClO ₂ ⁻ : chlorite				NH ₂ ⁻ : amide
SO ₃ ²⁻ : sulfite	ClO ₃ ⁻ : chlorate				
SO ₄ ²⁻ : sulfate	ClO ₄ ⁻ : perchlorate				
S ₂ O ₂ ²⁻ : thiosulfite	Br ⁻ : bromide				
S ₂ O ₃ ²⁻ : thiosulfate	BrO ⁻ : hypobromite				
Se ²⁻ : selenide	BrO ₂ ⁻ : bromite				
SeO ₃ ²⁻ : selenite	BrO ₃ ⁻ : bromate				
SeO ₄ ²⁻ : selenate	BrO ₄ ⁻ : perbromate				
Te ²⁻ : telluride	I ⁻ : iodide				
TeO ₃ ²⁻ : tellurite	IO ⁻ : hypoiodite				
TeO ₄ ²⁻ : tellurate	IO ₃ ⁻ : iodate				
	IO ₄ ⁻ : periodate				

<u>The more common oxidation states</u>							
H: ±1	<u>Group 1:</u>	<u>Group 2:</u>	<u>Group 13</u>	<u>Group 14</u>	<u>Group 15</u>	<u>Group 16</u>	<u>Group 17</u>
NH ₄ ⁺ : ammonium	+1	+2	B, Al: +3 Ga, In, Tl: +1, +3	C, Si: +2, ±4 Ge, Sn, Pb: +2, +4	N: -3 to +5 P, As, Sb, Bi: ±3, +5	O: -2 S, Se, Te, Po: -2, +4, +6	F: -1 Cl, Br, I, At: ±1, +3, +5, +7
<u>Group 3</u>	<u>Group 4</u>	<u>Group 5</u>	<u>Group 6</u>	<u>Group 7</u>	<u>Groups 8-10</u>	<u>Group 11</u>	<u>Group 12</u>
Sc } +3 Y } La }	Ti } +2 Zr } Hf } to +4	V } +2 Nb } Ta } to +5	Cr } +2 Mo } W } to +6	Mn } +2 Tc } Re } to +7	Fe, Co, Ni: +2, +3 Pd, Pt: +2, +4	Cu: +1, +2 Ag: +1 Au: +1, +3	Zn, Cd: +2 (Hg)

Trivial names of some hydrides :	BH ₃ borane	B ₂ H ₆ diborane	CH ₄ methane	SiH ₄ silane	NH ₃ ammonia
	PH ₃ phosphane	AsH ₃ arsane	SbH ₃ stibane	H ₂ O water	