

Ion Chart & Activity Series

Oxidation Numbers of Common Monatomic Ions

+1 Monatomic Cations		+2 Monatomic Cations			
ALKALI METALS	All ⁺	ALKALINE METALS	All ⁺²	manganese (II)	Mn ⁺²
copper (I)	Cu ⁺	cadmium	Cd ⁺²	mercury (II)	Hg ⁺²
hydrogen	H ⁺	copper (II)	Cu ⁺²	nickel (II)	Ni ⁺²
silver	Ag ⁺	iron (II)	Fe ⁺²	tin (II)	Sn ⁺²
thallium (I)	Tl ⁺	lead (II)	Pb ⁺²	zinc	Zn ⁺²
+3 Monatomic Cations		+4 Monatomic Cations		+5 Monatomic Cations	
aluminum	Al ⁺³	carbon	C ⁺⁴	Antimony	Sb ⁺⁵
bismuth (III)	Bi ⁺³	germanium (IV)	Ge ⁺⁴	Arsenic	As ⁺⁵
cerium (III)	Ce ⁺³	lead (IV)	Pb ⁺⁴	Bismuth (V)	Bi ⁺⁵
chromium (III)	Cr ⁺³	silicon (IV)	Si ⁺⁴	Vanadium (V)	V ⁺⁵
gallium (III)	Ga ⁺³	tin (IV)	Sn ⁺⁴		
-1 Monatomic Anions		-2 Monatomic Anions			
HALOGENS	All ⁻¹	oxide	O ⁻²	sulfide	S ⁻²
Hydride	H ⁻¹	selenide	Se ⁻²	telluride	Te ⁻²
-3 Monatomic Anions		-4 Monatomic Anions		-5 Monatomic Anions	
arsenide	As ⁻³	carbide	C ⁻⁴	Boride	B ⁻⁵
nitride	N ⁻³				
phosphide	P ⁻³				

Activity Series (Metals)

Lithium
 Rubidium
 Potassium
 Calcium
 Sodium
 Magnesium
 Aluminum
 Manganese
 Zinc
 Iron
 Nickel
 Tin
 Lead
 Hydrogen
 Copper
 Silver
 Platinum
 Gold

Oxidation Numbers of Common Polyatomic Ions

+1 Polyatomic Cations		-2 Polyatomic Anions		-3 Polyatomic Anions	
ammonium	NH ₄ ⁺	carbonate	CO ₃ ⁻²	arsenate	AsO ₃ ⁻³
		carbonite	CO ₂ ⁻²	citrate	C ₆ H ₅ O ₇ ⁻³
		chromate	CrO ₄ ⁻²	hexacyanoferrate(III)	Fe(CN) ₆ ⁻³
		dichromate	Cr ₂ O ₇ ⁻²	phosphate	PO ₄ ⁻³
		hexafluorosilicate	SiF ₆ ⁻²	phosphite	PO ₃ ⁻³
		hydrogen phosphate	HPO ₄ ⁻²		
		oxalate	C ₂ O ₄ ⁻²		
		peroxide	O ₂ ⁻²		
		selenate	SeO ₄ ⁻²		
		silicate	SiO ₃ ⁻²		
		sulfate	SO ₄ ⁻²		
		sulfite	SO ₃ ⁻²		
		thiosulfate	S ₂ O ₃ ⁻²		
		tungstate	WO ₄ ⁻²		
-1 Polyatomic Anions		-4 Polyatomic Anions			
acetate	C ₂ H ₃ O ₂ ⁻¹	hexacyanoferrate(II)	Fe(CN) ₆ ⁻⁴		
bicarbonate	HCO ₃ ⁻¹	pyrophosphate	P ₄ O ₇ ⁻⁴		
AKA = hydrogen carbonate					
bromate	BrO ₃ ⁻¹				
bromite	BrO ₂ ⁻¹				
chlorate	ClO ₃ ⁻¹				
chlorite	ClO ₂ ⁻¹				
cyanide	CN ⁻¹				
dihydrogen phosphate	H ₂ PO ₄ ⁻¹				
hydroxide	OH ⁻¹				
periodate	IO ₄ ⁻¹				
iodate	IO ₃ ⁻¹				
iodite	IO ₂ ⁻¹				
hypoiodite	IO ⁻¹				
permanganate	MnO ₄ ⁻¹				
manganate	MnO ₃ ⁻¹				
nitrate	NO ₃ ⁻¹				
nitrite	NO ₂ ⁻¹				

Activity Series (Halogens)

Fluorine
 Chlorine
 Bromine
 Iodine