

Table 5.4 Common Polyatomic Ions

1- charge		2- charge		3- charge	
Formula	Name	Formula	Name	Formula	Name
H ₂ PO ₄ ⁻	Dihydrogen phosphate	HPO ₄ ²⁻	Hydrogen phosphate	PO ₄ ³⁻	Phosphate
C ₂ H ₃ O ₂ ⁻	Acetate	C ₂ O ₄ ²⁻	Oxalate	PO ₃ ³⁻	Phosphite
HSO ₃ ⁻	Hydrogen sulfite	SO ₃ ²⁻	Sulfite		
HSO ₄ ⁻	Hydrogen sulfate	SO ₄ ²⁻	Sulfate		
HCO ₃ ⁻	Hydrogen carbonate	CO ₃ ²⁻	Carbonate		
NO ₂ ⁻	Nitrite	CrO ₄ ²⁻	Chromate		
NO ₃ ⁻	Nitrate	Cr ₂ O ₇ ²⁻	Dichromate		
CN ⁻	Cyanide	SiO ₃ ²⁻	Silicate		
OH ⁻	Hydroxide				
MnO ₄ ⁻	Permanganate				
ClO ⁻	Hypochlorite				
ClO ₂ ⁻	Chlorite				
ClO ₃ ⁻	Chlorate				
ClO ₄ ⁻	Perchlorate				

General Rules for the Water Solubilities Of Common Ionic Compounds

Compounds that are mostly *soluble*:

- i) All nitrates
- ii) Alkali metal (group 1A) and ammonium compounds
- iii) Chlorides, bromides, and iodides, *except* for those of Pb²⁺, Ag⁺, Hg²⁺
- iv) Sulfates, *except* for those of Sr²⁺, Ba²⁺, Pb²⁺, and Hg²⁺ (CaSO₄ is slightly soluble)

Compounds that are mostly *insoluble*:

- i) Carbonates, hydroxides, and sulfides, *except* for ammonium compounds and those of the group 1A metals. (The hydroxides and sulfides of Ca²⁺, Sr²⁺, and Ba²⁺ are slightly to moderately soluble)

Table 7.2 Activity Series of Metals

	Name	Symbol
Decreasing Activity ↓	Lithium	Li
	Potassium	K
	Calcium	Ca
	Sodium	Na
	Magnesium	Mg
	Aluminum	Al
	Zinc	Zn
	Iron	Fe
	Lead	Pb
	(Hydrogen)	(H)*
	Copper	Cu
Mercury	Hg	
Silver	Ag	

* Metals from Li to Na will replace H from acids and water; from Mg to Pb they will replace H from acids only.

PREFIX	NUMBER	PREFIX	NUMBER
mono-	1	hexa-	6
di-	2	hepta-	7
tri-	3	octa-	8
tetra-	4	nona-	9
penta-	5	deca-	10