

Names of ions and ionic compounds

Types of ions:

- Cations and anions
- Monatomic ions (单原子离子) and polyatomic ions (多原子离子)

Names for monatomic ions:

- Cation: form one type of ion (fixed charge): element's name ion

Na^+ : sodium ion

Mg^{2+} : magnesium ion

Al^{3+} : aluminium ion

Form more than two types of ion: element's name (Roman numeral) ion

Cu^+ : copper (I) ion

Cu^{2+} : copper (II) ion

1+: Group I: Na^+ , K^+ , Li^+ , and Ag^+ , H^+

2+: Group II: Mg^{2+} , Ba^{2+} , Ca^{2+} , and Zn^{2+}

3+: Al^{3+}

- Anion: stem-ide

1-		2-		4-	
F^-	fluoride	O^{2-}	oxide	C^{4-}	carbide
Cl^-	chloride	S^{2-}	sulfide		
Br^-	bromide		3-		
I^-	iodide	N^{3-}	nitrile		
H^-	hydride	P^{3-}	phosphide		

Names for polyatomic ions:

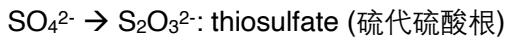
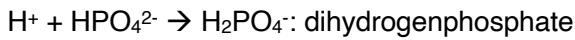
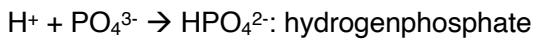
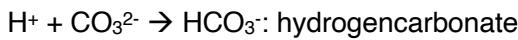
- Cation: NH_4^+ : ammonium

- Anion:

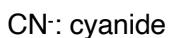
- Oxyanion (含氧酸根离子)

Central atom	sulfur	carbon	nitrogen	phosphorus	Chlorine Apply for other halogens
per-ate					ClO_4^- perchlorate chlorate(VII) BrO_4^- perbromoate bromoate(VII)
-ate	SO_4^{2-} sulfate	CO_3^{2-} carbonate	NO_3^- nitrate	PO_4^{3-} phosphate	ClO_3^- chlorate chlorate(V)

-ite	SO_3^{2-} sulfite		NO_2^- nitr^{ite}	PO_3^{3-} phosph^{ite}	$\overset{+3}{\text{Cl}}\text{O}_2^-$ chlor^{ite} chlorate(III)
<i>hypo-ite</i>					$\overset{+1}{\text{Cl}}\text{O}^-$ hypochlor^{ite} chlorate(I)



■ Other anion:

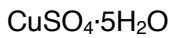


Name of ionic compounds:



Copper (II) and sulfate

Copper(II) sulfate



Copper(II) sulfate **pentahydrate**

Hydrate: water

Penta: five