

## Year 11/12 chemistry common ions

### Symbols and names of monatomic ions:

1+		2+		3+		4+	
hydrogen	H <sup>+</sup>	cobalt(II)	Co <sup>2+</sup>	aluminium	Al <sup>3+</sup>	tin(IV)	Sn <sup>4+</sup>
lithium	Li <sup>+</sup>	magnesium	Mg <sup>2+</sup>	iron(III)	Fe <sup>3+</sup>	lead(IV)	Pb <sup>4+</sup>
sodium	Na <sup>+</sup>	calcium	Ca <sup>2+</sup>	chromium(III)	Cr <sup>3+</sup>		
potassium	K <sup>+</sup>	barium	Ba <sup>2+</sup>	gold(III)	Au <sup>3+</sup>		
silver	Ag <sup>+</sup>	manganese(II)	Mn <sup>2+</sup>				
copper(I)	Cu <sup>+</sup>	iron(II)	Fe <sup>2+</sup>				
gold(I)	Au <sup>+</sup>	copper(II)	Cu <sup>2+</sup>				
		zinc	Zn <sup>2+</sup>				
		mercury(II)	Hg <sup>2+</sup>				
		tin(II)	Sn <sup>2+</sup>				
		lead(II)	Pb <sup>2+</sup>				
		strontium	Sr <sup>2+</sup>				
		nickel(II)	Ni <sup>2+</sup>				
		cadmium(II)	Cd <sup>2+</sup>				
ANIONS							
1-		2-		3-			
hydride	H <sup>-</sup>	oxide	O <sup>2-</sup>	nitride	N <sup>3-</sup>		
fluoride	F <sup>-</sup>	sulfide	S <sup>2-</sup>				
chloride	Cl <sup>-</sup>						
bromide	Br <sup>-</sup>						
iodide	I <sup>-</sup>						

### Formulae and names of polyatomic ions:

1-		2-		3-	
hydroxide	OH <sup>-</sup>	carbonate	CO <sub>3</sub> <sup>2-</sup>	phosphate	PO <sub>4</sub> <sup>3-</sup>
nitrate	NO <sub>3</sub> <sup>-</sup>	sulfate	SO <sub>4</sub> <sup>2-</sup>		
nitrite	NO <sub>2</sub> <sup>-</sup>	sulfite	SO <sub>3</sub> <sup>2-</sup>		
hydrogencarbonate	HCO <sub>3</sub> <sup>-</sup>	dichromate	Cr <sub>2</sub> O <sub>7</sub> <sup>2-</sup>		
hydrogensulfate	HSO <sub>4</sub> <sup>-</sup>	chromate	CrO <sub>4</sub> <sup>2-</sup>		
ethanoate (acetate)	CH <sub>3</sub> COO <sup>-</sup>	*tetrahydroxozincate			
*hypochlorite	ClO <sup>-</sup>		[Zn(OH) <sub>4</sub> ] <sup>2-</sup>		
permanganate	MnO <sup>-</sup>	peroxide	O <sub>2</sub> <sup>2-</sup>		
cyanide	CN <sup>-</sup>				
*tetrahydroxoaluminate					
	[Al(OH) <sub>4</sub> ] <sup>-</sup>				
*dicyanoaurate(I)	[Au(CN) <sub>2</sub> ] <sup>-</sup>				
1+		2+			
ammonium	NH <sub>4</sub> <sup>+</sup>	mercury(I)	Hg <sub>2</sub> <sup>2+</sup>		

**Formulae and names of molecular substances:**

Elements		Compounds	
hydrogen	H <sub>2</sub>	carbon monoxide	CO
nitrogen	N <sub>2</sub>	carbon dioxide	CO <sub>2</sub>
oxygen	O <sub>2</sub>	nitrogen monoxide	NO (nitric oxide)
fluorine	F <sub>2</sub>	nitrogen dioxide	NO <sub>2</sub>
chlorine	Cl <sub>2</sub>	dinitrogen monoxide	N <sub>2</sub> O (nitrous oxide)
bromine	Br <sub>2</sub>	sulfur dioxide	SO <sub>2</sub>
iodine	I <sub>2</sub>	sulfur trioxide	SO <sub>3</sub>
phosphorus	P <sub>4</sub>	water	H <sub>2</sub> O
sulfur	S <sub>8</sub>	ammonia	NH <sub>3</sub>
		hydrogen peroxide	H <sub>2</sub> O <sub>2</sub>
		hydrogen sulfide	H <sub>2</sub> S
		hydrogen fluoride	HF
		hydrogen chloride	HCl
		hydrogen bromide	HBr
		hydrogen iodide	HI
		nitric acid	HNO <sub>3</sub>
		phosphoric acid	H <sub>3</sub> PO <sub>4</sub>
		sulfurous acid	H <sub>2</sub> SO <sub>3</sub>
		sulfuric acid	H <sub>2</sub> SO <sub>4</sub>
		*hypochlorous acid	HClO
		organic compounds as in 6.8	

\* this name does not need to be learned.

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