

Ionic Compounds

	Cl^-	CO_3^{2-}	OH^-	SO_4^{2-}	PO_4^{3-}	NO_3^-
Na^+	NaCl	Na_2CO_3	NaOH	Na_2SO_4	Na_3PO_4	NaNO_3
NH_4^+	NH_4Cl	$(\text{NH}_4)_2\text{CO}_3$	NH_4OH	$(\text{NH}_4)_2\text{SO}_4$	$(\text{NH}_4)_3\text{PO}_4$	NH_4NO_3
K^+	KCl	K_2CO_3	KOH	K_2SO_4	K_3PO_4	KNO_3
Ca^{2+}	CaCl_2	CaCO_3	$\text{Ca}(\text{OH})_2$	CaSO_4	$\text{Ca}_3(\text{PO}_4)_2$	$\text{Ca}(\text{NO}_3)_2$
Mg^{2+}	MgCl_2	MgCO_3	$\text{Mg}(\text{OH})_2$	MgSO_4	$\text{Mg}_3(\text{PO}_4)_2$	$\text{Mg}(\text{NO}_3)_2$
Zn^{2+}	ZnCl_2	ZnCO_3	$\text{Zn}(\text{OH})_2$	ZnSO_4	$\text{Zn}_3(\text{PO}_4)_2$	$\text{Zn}(\text{NO}_3)_2$
Fe^{3+}	FeCl_3	$\text{Fe}_2(\text{CO}_3)_3$	$\text{Fe}(\text{OH})_3$	$\text{Fe}_2(\text{SO}_4)_3$	FePO_4	$\text{Fe}(\text{NO}_3)_3$
Al^{3+}	AlCl_3	$\text{Al}_2(\text{CO}_3)_3$	$\text{Al}(\text{OH})_3$	$\text{Al}_2(\text{SO}_4)_3$	AlPO_4	$\text{Al}(\text{NO}_3)_3$
Co^{2+}	CoCl_2	CoCO_3	$\text{Co}(\text{OH})_2$	CoSO_4	$\text{Co}_3(\text{PO}_4)_2$	$\text{Co}(\text{NO}_3)_2$
Fe^{2+}	FeCl_2	FeCO_3	$\text{Fe}(\text{OH})_2$	FeSO_4	$\text{Fe}_3(\text{PO}_4)_2$	$\text{Fe}(\text{NO}_3)_2$
H^+	HCl	H_2CO_3	HOH	H_2SO_4	H_3PO_4	HNO_3

Writing Chemical formulas for ionic compounds

Coefficient	+ Charge		Coefficient	- Charge	
1	+2	+	2	-1	= 0
2	+1	+	1	-2	= 0
1	+4	+	4	-1	= 0
2	+3	+	3	-2	= 0
3	+2	+	2	-3	= 0
1	+3	+	3	-1	= 0
4	+1	+	1	-4	= 0
1	+1	+	1	-1	= 0
3	+4	+	4	-3	= 0
1	+2	+	1	-2	= 0

The coefficient is the number you would need to multiply by to balance the charges. The first one is done for you. 1(+2) balances 2(-1).

Coefficient	Cation		Coefficient	Anion		Chemical Formula
1	Mg ²⁺	+	2	Cl ⁻	= 0	MgCl ₂
1	Na ⁺	+	1	Cl ⁻	= 0	NaCl
1	Pb ⁴⁺	+	2	S ²⁻	= 0	PbS ₂
2	Al ³⁺	+	3	O ²⁻	= 0	Al ₂ O ₃
3	Ca ²⁺	+	2	P ³⁻	= 0	Ca ₃ P ₂
2	NH ₄ ⁺	+	1	S ²⁻	= 0	(NH ₄) ₂ S
1	Fe ²⁺	+	1	SO ₄ ²⁻	= 0	FeSO ₄
2	Fe ³⁺	+	3	SO ₄ ²⁻	= 0	Fe ₂ (SO ₄) ₃
2	Li ⁺	+	1	SO ₄ ²⁻	= 0	Li ₂ SO ₄
1	Ba ²⁺	+	2	NO ₃ ⁻	= 0	Ba(NO ₃) ₂