

# Key: BALANCING CHEMICAL EQUATIONS

*Note that several of these equations are already balanced as written*

- $\text{Li}_2\text{O} + \text{H}_2\text{O} \rightarrow 2\text{LiOH}$
- $\text{CaC}_2 + 2\text{H}_2\text{O} \rightarrow \text{C}_2\text{H}_2 + \text{Ca(OH)}_2$
- $2\text{Fe(OH)}_3 \rightarrow \text{Fe}_2\text{O}_3 + 3\text{H}_2\text{O}$
- $2\text{Pb(NO}_3)_2 \rightarrow 2\text{PbO} + 4\text{NO}_2 + \text{O}_2$
- $\text{BaO} + \text{H}_2\text{O} \rightarrow \text{Ba(OH)}_2$
- $3\text{Ca} + 2\text{AlCl}_3 \rightarrow 3\text{CaCl}_2 + 2\text{Al}$
- $4\text{NH}_3 + 6\text{NO} \rightarrow 5\text{N}_2 + 6\text{H}_2\text{O}$
- $4\text{H}_3\text{PO}_3 \rightarrow 3\text{H}_3\text{PO}_4 + \text{PH}_3$
- $\text{Fe}_2\text{O}_3 + 3\text{C} \rightarrow 3\text{CO} + 2\text{Fe}$
- $4\text{FeS} + 7\text{O}_2 \rightarrow 2\text{Fe}_2\text{O}_3 + 4\text{SO}_2$
- $4\text{NH}_3 + 5\text{O}_2 \rightarrow 4\text{NO} + 6\text{H}_2\text{O}$
- $4\text{Si} + \text{S}_8 \rightarrow 2\text{Si}_2\text{S}_4$
- $\text{Hg}_2\text{CO}_3 \rightarrow \text{Hg} + \text{HgO} + \text{CO}_2$
- $\text{SiC} + 2\text{Cl}_2 \rightarrow \text{SiCl}_4 + \text{C}$
- $\text{Al}_4\text{C}_3 + 12\text{H}_2\text{O} \rightarrow 3\text{CH}_4 + 4\text{Al(OH)}_3$
- $\text{V}_2\text{O}_5 + 6\text{HCl} \rightarrow 2\text{VOCl}_3 + 3\text{H}_2\text{O}$
- $\text{Ag}_2\text{S} + 4\text{KCN} \rightarrow 2\text{KAg(CN)}_2 + \text{K}_2\text{S}$
- $\text{Au}_2\text{S}_3 + 3\text{H}_2 \rightarrow 2\text{Au} + 3\text{H}_2\text{S}$
- $2\text{ClO}_2 + \text{H}_2\text{O} \rightarrow \text{HClO}_2 + \text{HClO}_3$
- $4\text{KO}_2 + 2\text{CO}_2 \rightarrow 2\text{K}_2\text{CO}_3 + 3\text{O}_2$
- $\text{H}_3\text{PO}_4 + 5\text{HCl} \rightarrow \text{PCl}_5 + 4\text{H}_2\text{O}$
- $2\text{HCl} + \text{K}_2\text{CO}_3 \rightarrow 2\text{KCl} + \text{H}_2\text{O} + \text{CO}_2$
- $\text{Ca(ClO}_3)_2 \rightarrow \text{CaCl}_2 + 3\text{O}_2$
- $3\text{Hg(OH)}_2 + 2\text{H}_3\text{PO}_4 \rightarrow \text{Hg}_3(\text{PO}_4)_2 + 6\text{H}_2\text{O}$
- $2\text{Ca}_3(\text{PO}_4)_2 + 6\text{SiO}_2 + 10\text{C} \rightarrow 6\text{CaSiO}_3 + \text{P}_4 + 10\text{CO}$
- $2\text{I}_4\text{O}_9 \rightarrow 2\text{I}_2\text{O}_6 + 2\text{I}_2 + 3\text{O}_2$  (this equation can be balanced with various sets of coefficients)
- $2\text{C}_2\text{H}_3\text{Cl} + 5\text{O}_2 \rightarrow 4\text{CO}_2 + 2\text{H}_2\text{O} + 2\text{HCl}$
- $2(\text{NH}_4)_2\text{Cr}_2\text{O}_7 \rightarrow 4\text{NH}_3 + 2\text{H}_2\text{O} + 2\text{Cr}_2\text{O}_3 + 2\text{O}_2$
- $2\text{NH}_4\text{Cl} + \text{Ca(OH)}_2 \rightarrow \text{CaCl}_2 + 2\text{NH}_3 + 2\text{H}_2\text{O}$
- $3\text{Al} + 3\text{NH}_4\text{ClO}_4 \rightarrow \text{Al}_2\text{O}_3 + \text{AlCl}_3 + 3\text{NO} + 6\text{H}_2\text{O}$
- $\text{H}_2\text{SO}_4 + 2\text{NaHCO}_3 \rightarrow \text{Na}_2\text{SO}_4 + 2\text{CO}_2 + 2\text{H}_2\text{O}$
- $\text{Ca}_{10}\text{F}_2(\text{PO}_4)_6 + 7\text{H}_2\text{SO}_4 \rightarrow 3\text{Ca}(\text{H}_2\text{PO}_4)_2 + 7\text{CaSO}_4 + 2\text{HF}$
- $\text{Ca}_3(\text{PO}_4)_2 + 2\text{H}_2\text{SO}_4 \rightarrow 2\text{CaSO}_4 + \text{Ca}(\text{H}_2\text{PO}_4)_2$
- $\text{H}_3\text{PO}_4 + 12(\text{NH}_4)_2\text{MoO}_4 + 21\text{HNO}_3 \rightarrow (\text{NH}_4)_3\text{PO}_4 \cdot 12\text{MoO}_3 + 21\text{NH}_4\text{NO}_3 + 12\text{H}_2\text{O}$
- $2\text{C}_4\text{H}_{10} + 2\text{Cl}_2 + 8\text{O}_2 \rightarrow 3\text{CO}_2 + \text{CCl}_4 + 10\text{H}_2\text{O}$
- $2\text{C}_7\text{H}_{10}\text{N} + 21\text{O}_2 \rightarrow 14\text{CO}_2 + 10\text{H}_2\text{O} + 2\text{NO}_2$
- $\text{C}_2\text{H}_5\text{OH} + 2\text{O}_2 \rightarrow 2\text{CO} + 3\text{H}_2\text{O}$
- $\text{Xe} + 3\text{F}_2 \rightarrow \text{XeF}_6$
- $\text{NH}_4\text{NO}_3 \rightarrow \text{N}_2\text{O} + \text{H}_2\text{O}$
- $2\text{Au}_2\text{O}_3 \rightarrow 3\text{Au} + 3\text{O}_2$
- $2\text{C}_4\text{H}_{10} + 13\text{O}_2 \rightarrow 8\text{CO}_2 + 10\text{H}_2\text{O}$
- $\text{Fe}_3\text{O}_4 + 4\text{H}_2 \rightarrow 3\text{Fe} + 4\text{H}_2\text{O}$
- $3\text{O}_2 \rightarrow 2\text{O}_3$
- $\text{I}_2 + 6\text{HNO}_3 \rightarrow 2\text{HIO}_3 + 6\text{NO}_2 + 2\text{H}_2$
- $2\text{C}_6\text{H}_6 + 15\text{O}_2 \rightarrow 12\text{CO}_2 + 6\text{H}_2\text{O}$
- $\text{C}_2\text{H}_5\text{OH} + 3\text{O}_2 \rightarrow 2\text{CO}_2 + 3\text{H}_2\text{O}$
- $12\text{HClO}_4 + \text{P}_4\text{O}_{10} \rightarrow 4\text{H}_3\text{PO}_4 + 6\text{Cl}_2\text{O}_7$
- $3\text{BaCl}_2 + \text{Al}_2(\text{SO}_4)_3 \rightarrow 4\text{BaSO}_4 + 2\text{AlCl}_3$
- $(\text{NH}_4)_2\text{Cr}_2\text{O}_7 \rightarrow \text{Cr}_2\text{O}_3 + \text{N}_2 + 4\text{H}_2\text{O}$
- $2\text{NaHCO}_3 \rightarrow \text{Na}_2\text{CO}_3 + \text{CO}_2 + \text{H}_2\text{O}$
- $\text{Fe}_2(\text{C}_2\text{O}_4)_3 \rightarrow ?\text{FeC}_2\text{O}_4 + \text{CO}_2$
- $\text{Ca}_3\text{P}_2 + 6\text{H}_2\text{O} \rightarrow 2\text{Ca(OH)}_2 + 2\text{PH}_3$
- $2\text{As} + 6\text{NaOH} \rightarrow 2\text{Na}_3\text{AsO}_3 + 3\text{H}_2$
- $2\text{MgNH}_4\text{PO}_4 \rightarrow \text{Mg}_2\text{P}_2\text{O}_7 + 2\text{NH}_3 + \text{H}_2\text{O}$
- $\text{MnO}_2 + 4\text{HCl} \rightarrow \text{MnCl}_2 + 2\text{H}_2\text{O} + \text{Cl}_2$
- $\text{Pb} + 4\text{Na} + 4\text{C}_2\text{H}_5\text{Cl} \rightarrow \text{Pb}(\text{C}_2\text{H}_5)_4 + 4\text{NaCl}$
- $\text{Ca(OH)}_2 + \text{H}_3\text{PO}_4 \rightarrow \text{CaHPO}_4 + 2\text{H}_2\text{O}$
- $\text{Zn} + 2\text{NaOH} + 2\text{H}_2\text{O} \rightarrow \text{Na}_2\text{Zn(OH)}_4 + \text{H}_2$
- $\text{SrBr}_2 + (\text{NH}_4)_2\text{CO}_3 \rightarrow \text{SrCO}_3 + 2\text{NH}_4\text{Br}$

