

Oxidant name/formula	Colour	State	Reduction half equation
Oxygen, O ₂	Colourless	g	$O_2(g) + 4e^- \rightarrow 2O^{2-}$
Hydrogen ion, H ⁺	Colourless	aq	$2H^+(aq) + 2e^- \rightarrow H_2(g)$
Chlorine, Cl ₂	Green	g	$Cl_2(g) + 2e^- \rightarrow 2Cl^-$
Permanganate, MnO ₄ ⁻	Purple	aq	$MnO_4^-(aq) + 8H^+ + 5e^- \rightarrow Mn^{2+}(aq) + 4H_2O$
Dichromate, Cr ₂ O ₇ ²⁻	Orange	aq	$Cr_2O_7^{2-}(aq) + 14H^+ + 6e^- \rightarrow 2Cr^{3+}(aq) + 7H_2O$
Hydrogen peroxide, H ₂ O ₂	Colourless	aq	$H_2O_2(aq) + 2H^+ + 2e^- \rightarrow 2H_2O$
Iodine, I ₂	Brown	aq	$I_2(aq) + 2e^- \rightarrow 2I^-$
Iron(III) ion, Fe ³⁺	Orange	aq	$Fe^{3+}(aq) + e^- \rightarrow Fe^{2+}(aq)$
Bromine, Br ₂	Orange	aq	$Br_2(aq) + 2e^- \rightarrow 2Br^-(aq)$
Hypochlorite, OCl ⁻	Colourless	aq	$OCl^-(aq) + H_2O + 2e^- \rightarrow Cl^-(aq) + 2OH^-(aq)$
Copper (II) ion, Cu ²⁺	Blue	aq	$Cu^{2+}(aq) + e^- \rightarrow Cu^+(aq)$
Conc. Nitric acid, HNO ₃	Colourless	aq	$NO_3^-(aq) + 2H^+(aq) + e^- \rightarrow NO_2(g) + H_2O$
Iodate, IO ₃ ⁻	Colourless	aq	$2IO_3^-(aq) + 12H^+(aq) + 10e^- \rightarrow I_2(aq) + 6H_2O$

Reductant name/formula	Colour	State	Oxidation half equation
Carbon, C	Black	s	$C + 2H_2O \rightarrow CO_2 + 4H^+ + 4e^-$
Carbon monoxide, CO	Colourless	g	$CO + H_2O \rightarrow CO_2 + 2H^+ + 2e^-$
Sulphur dioxide, SO ₂	Colourless	g	$SO_2 + 2H_2O \rightarrow SO_4^{2-} + 4H^+ + 2e^-$
Sulphite, SO ₃ ²⁻	Colourless	aq	$SO_3^{2-} + H_2O \rightarrow SO_4^{2-} + 2H^+ + 2e^-$
Hydrogen, H ₂	Colourless	g	$H_2 \rightarrow 2H^+ + 2e^-$
Iodide, I ⁻	Colourless	aq	$2I^- \rightarrow I_2 + 2e^-$
Bromide, Br ⁻	Colourless	aq	$2Br^- \rightarrow Br_2 + 2e^-$
Iron (II) ions, Fe ²⁺	Green	aq	$Fe^{2+} \rightarrow Fe^{3+} + e^-$
Zinc, Zn	Grey	s	$Zn \rightarrow Zn^{2+} + 2e^-$
Magnesium, Mg	Grey	s	$Mg \rightarrow Mg^{2+} + 2e^-$
Copper, Cu	Pink or Brown	s	$Cu \rightarrow Cu^{2+} + 2e^-$
Iron, Fe	Grey	s	$Fe \rightarrow Fe^{2+} + 2e^-$
Hydrogen peroxide, H ₂ O ₂	Colourless	aq	$H_2O_2 \rightarrow O_2 + 2H^+ + 2e^-$
Hydrogen sulphide, H ₂ S	Colourless	g	$H_2S(g) \rightarrow S(s) + 2H^+(aq) + 2e^-$