

STANDARD REDUCTION POTENTIALS at 25°C

from *CRC Handbook 88thEd.*

OXIDIZING AGENT	+ n e ⁻ →	REDUCING AGENT	E° (Volts)
	F ₂ (g) + 2 e ⁻ →	2 F ⁻	2.866
	H ₂ O ₂ + 2 H ⁺ + 4 e ⁻ →	2 H ₂ O	1.776
PbO ₂ (s) + SO ₄ ²⁻ + 4 H ⁺ + 2 e ⁻ →		PbSO ₄ (s) + 2 H ₂ O	1.6913
	MnO ₄ ⁻ + 4 H ⁺ + 3 e ⁻ →	MnO ₂ (s) + 2 H ₂ O	1.679
	MnO ₄ ⁻ + 8 H ⁺ + 5 e ⁻ →	Mn ²⁺ + 4 H ₂ O	1.507
	PbO ₂ (s) + 4 H ⁺ + 2 e ⁻ →	Pb ²⁺ + 2 H ₂ O	1.455
	Au ³⁺ + 3 e ⁻ →	Au(s)	1.401
	Cl ₂ (g) + 2 e ⁻ →	2 Cl ⁻	1.35827
Cr ₂ O ₇ ²⁻ + 14 H ⁺ + 6 e ⁻ →		2 Cr ³⁺ + 7 H ₂ O	1.36
	O ₂ (g) + 4 H ⁺ + 4 e ⁻ →	2 H ₂ O	1.229
	MnO ₂ (s) + 4 H ⁺ + 2 e ⁻ →	Mn ²⁺ + 2 H ₂ O	1.224
	2 IO ₃ ⁻ + 12 H ⁺ + 10 e ⁻ →	I ₂ + 6 H ₂ O	1.195
	Br ₂ (aq) + 2 e ⁻ →	2 Br ⁻	1.087
	Br ₂ (ℓ) + 2 e ⁻ →	2 Br ⁻	1.066
	NO ₃ ⁻ + 4 H ⁺ + 3 e ⁻ →	NO(g) + 2 H ₂ O	0.957
	NO ₃ ⁻ + 3 H ⁺ + 2 e ⁻ →	HNO ₂ + H ₂ O	0.934
	2 Hg ²⁺ + 2 e ⁻ →	Hg ₂ ²⁺	0.920
	Hg ²⁺ + 2 e ⁻ →	Hg(ℓ)	0.851
	Ag ⁺ + e ⁻ →	Ag(s)	0.7996
	Hg ₂ ²⁺ + 2 e ⁻ →	2 Hg(ℓ)	0.7973
	Fe ³⁺ + e ⁻ →	Fe ²⁺	0.771
	O ₂ (g) + 2 H ⁺ + 4 e ⁻ →	H ₂ O ₂	0.695
	Ag ₂ SO ₄ (s) + 2 e ⁻ →	2 Ag(s) + SO ₄ ²⁻	0.654
	MnO ₄ ⁻ + 2 H ₂ O + 3 e ⁻ →	MnO ₂ (s) + 4 OH ⁻	0.60
	I ₂ (s) + 2 e ⁻ →	2 I ⁻	0.5355
	Ag ₂ CrO ₄ (s) + 2 e ⁻ →	2 Ag(s) + CrO ₄ ²⁻	0.4470
	O ₂ (g) + 2 H ₂ O + 4 e ⁻ →	4 OH ⁻	0.401
	Cu ²⁺ + 2 e ⁻ →	Cu(s)	0.3419
	Hg ₂ Cl ₂ (s) + 2 e ⁻ →	2 Hg(ℓ) + 2 Cl ⁻	0.26808
	AgCl(s) + e ⁻ →	Ag(s) + Cl ⁻	0.22233
	Co(OH) ₃ (s) + e ⁻ →	Co(OH) ₂ (s) + OH ⁻	0.17
	Cu ²⁺ + 2 e ⁻ →	Cu ⁺	0.153
	Sn ⁴⁺ + 2 e ⁻ →	Sn ²⁺	0.151
	S ₄ O ₆ ²⁻ + 2 e ⁻ →	2 S ₂ O ₃ ²⁻	0.08

$\text{AgBr(s)} + \text{e}^- \rightarrow \text{Ag(s)} + \text{Br}^-$	0.07133
$\text{NO}_3^- + \text{H}_2\text{O} + 2 \text{e}^- \rightarrow \text{NO}_2^- + 2 \text{OH}^-$	+0.01
$2 \text{H}^+ + 2 \text{e}^- \rightarrow \text{H}_2(\text{g})$	0.0000
$\text{Fe}^{3+} + 3 \text{e}^- \rightarrow \text{Fe(s)}$	-0.037
$\text{Pb}^{2+} + 2 \text{e}^- \rightarrow \text{Pb(s)}$	-0.1262
$\text{Sn}^{2+} + 2 \text{e}^- \rightarrow \text{Sn(s)}$	-0.1375
$\text{O}_2(\text{g}) + 2 \text{H}_2\text{O} + 2 \text{e}^- \rightarrow \text{H}_2\text{O}_2 + 2 \text{OH}^-$	-0.146
$\text{AgI(s)} + \text{e}^- \rightarrow \text{Ag(s)} + \text{I}^-$	-0.15224
$\text{Cu(OH)}_2(\text{s}) + 2 \text{e}^- \rightarrow \text{Cu(s)} + 2 \text{OH}^-$	-0.222
$\text{Ni}^{2+} + 2 \text{e}^- \rightarrow \text{Ni(s)}$	-0.257
$\text{Co}^{2+} + 2 \text{e}^- \rightarrow \text{Co(s)}$	-0.28
$\text{PbSO}_4(\text{s}) + 2 \text{e}^- \rightarrow \text{Pb(s)} + \text{SO}_4^{2-}$	-0.3588
$\text{Cd}^{2+} + 2 \text{e}^- \rightarrow \text{Cd(s)}$	-0.4030
$\text{Cr}^{3+} + \text{e}^- \rightarrow \text{Cr}^{2+}$	-0.407
$\text{Fe}^{2+} + 2 \text{e}^- \rightarrow \text{Fe(s)}$	-0.447
$\text{S(s)} + 2 \text{e}^- \rightarrow \text{S}^{2-}$	-0.47627
$2 \text{CO}_2 + 2 \text{H}^+ + 2 \text{e}^- \rightarrow \text{H}_2\text{C}_2\text{O}_4$	-0.49
$\text{Ag}_2\text{S(s)} + 2 \text{e}^- \rightarrow 2 \text{Ag(s)} + \text{S}^{2-}$	-0.691
$\text{Ni(OH)}_2(\text{s}) + 2 \text{e}^- \rightarrow \text{Ni(s)} + 2 \text{OH}^-$	-0.72
$\text{Cr}^{3+} + 3 \text{e}^- \rightarrow \text{Cr(s)}$	-0.744
$\text{Zn}^{2+} + 2 \text{e}^- \rightarrow \text{Zn(s)}$	-0.7618
$2 \text{H}_2\text{O} + 2 \text{e}^- \rightarrow \text{H}_2(\text{g}) + 2 \text{OH}^-$	-0.8277
$\text{SO}_4^{2-} + \text{H}_2\text{O} + 2 \text{e}^- \rightarrow \text{SO}_3^{2-} + 2 \text{OH}^-$	-0.93
$\text{Zn(NH}_3)_4^{2+} + 2 \text{e}^- \rightarrow \text{Zn(s)} + 4 \text{NH}_3$	-1.030
$\text{Mn}^{2+} + 2 \text{e}^- \rightarrow \text{Mn(s)}$	-1.185
$\text{Zn(OH)}_4^{2-} + 2 \text{e}^- \rightarrow \text{Zn(s)} + 4 \text{OH}^-$	-1.199
$\text{Zn(OH)}_2(\text{s}) + 2 \text{e}^- \rightarrow \text{Zn(s)} + 2 \text{OH}^-$	-1.249
$\text{Al}^{3+} + 3 \text{e}^- \rightarrow \text{Al(s)}$	-1.662
$\text{Mg}^{2+} + 2 \text{e}^- \rightarrow \text{Mg(s)}$	-2.372
$\text{Na}^+ + \text{e}^- \rightarrow \text{Na(s)}$	-2.71
$\text{Ca}^{2+} + 2 \text{e}^- \rightarrow \text{Ca(s)}$	-2.868
$\text{Sr}^{2+} + 2 \text{e}^- \rightarrow \text{Sr(s)}$	-2.899
$\text{Ba}^{2+} + 2 \text{e}^- \rightarrow \text{Ba(s)}$	-2.912
$\text{K}^+ + \text{e}^- \rightarrow \text{K(s)}$	-2.931
$\text{Cs}^+ + \text{e}^- \rightarrow \text{Cs(s)}$	-3.026
$\text{Li}^+ + \text{e}^- \rightarrow \text{Li(s)}$	-3.0401

OXIDIZING AGENT

+ n e⁻ →

REDUCING AGENT

E^o (Volts)