

Standard Electrode Potentials – Data Page

Values relative to the standard hydrogen electrode (SHE). (Source: Wikipedia)

- $T_0 = 298.15 \text{ K}$ (25.00°C)
- $p_0 = 1.01325 \text{ bar} = 1 \text{ atm}$ (most literature data are at 1 atm, despite the current standard of 1 bar)
- activity $a = 1$ or pure solid, pure liquid, or for water
- for ionic species dissolved in water, $a = 1 = \gamma \cdot c / c_0$, where $c_0 = 1 \text{ mol/L}$

Half-cell reaction	E° (V vs. SHE)
$\text{F}_2 + 2 \text{e}^- \rightarrow 2 \text{F}^-$	+2.87
$\text{Ce}^{4+} + \text{e}^- \rightarrow \text{Ce}^{3+}$	+1.61
$\text{MnO}_4^- + 8 \text{H}^+ + 5 \text{e}^- \rightarrow \text{Mn}^{2+} + 4 \text{H}_2\text{O}$	+1.51
$\text{Cl}_2 + 2\text{e}^- \rightarrow 2 \text{Cl}^-$	+1.36
$\text{Cr}_2\text{O}_7^{2-} + 14 \text{H}^+ + 6 \text{e}^- \rightarrow 2 \text{Cr}^{3+} + 7 \text{H}_2\text{O}$	+1.33
$\text{O}_2 + 4 \text{H}^+ + 4 \text{e}^- \rightarrow 2 \text{H}_2\text{O}$	+1.23
$\text{MnO}_2 + 4 \text{H}^+ + 2 \text{e}^- \rightarrow \text{Mn}^{2+} + 2 \text{H}_2\text{O}$	+1.23
$\text{Br}_2 + 2\text{e}^- \rightarrow 2 \text{Br}^-$	+1.06
$\text{NO}_3^- + 4 \text{H}^+ + 3 \text{e}^- \rightarrow \text{NO} + \text{H}_2\text{O}$	+0.96
$\text{Ag}^+ + \text{e}^- \rightarrow \text{Ag}$	+0.80
$\text{Fe}^{3+} + \text{e}^- \rightarrow \text{Fe}^{2+}$	+0.77
$\text{Q} + 2 \text{H}^+ + 2 \text{e}^- \rightarrow \text{H}_2\text{Q} (*)$	+0.699
$\text{O}_2 + 2 \text{H}^+ + 2 \text{e}^- \rightarrow \text{H}_2\text{O}_2$	+0.68
$\text{MnO}_4^- + 2 \text{H}_2\text{O} + 3 \text{e}^- \rightarrow \text{MnO}_2 + 4 \text{OH}^-$	+0.59
$\text{I}_2 + 2 \text{e}^- \rightarrow 2 \text{I}^-$	+0.54
$\text{O}_2 + 2 \text{H}_2\text{O} + 4\text{e}^- \rightarrow 4 \text{OH}^-$	+0.40
$[\text{Fe}(\text{CN})_6]^{3-} + \text{e}^- \rightarrow [\text{Fe}(\text{CN})_6]^{4-}$	+0.370
$\text{Cu}^{2+} + 2 \text{e}^- \rightarrow \text{Cu}$	+0.34
$\text{AgCl}(\text{s}) + \text{e}^- \rightarrow \text{Ag} + \text{Cl}^-$	+0.222
$2 \text{H}^+ + 2 \text{e}^- \rightarrow \text{H}_2$	0.00
$\text{Ni}^{2+} + 2 \text{e}^- \rightarrow \text{Ni}$	-0.28
$\text{Cd}^{2+} + 2 \text{e}^- \rightarrow \text{Cd}$	-0.40
$\text{Fe}^{2+} + 2 \text{e}^- \rightarrow \text{Fe}$	-0.44
$\text{Zn}^{2+} + 2 \text{e}^- \rightarrow \text{Zn}$	-0.76
$2 \text{H}_2\text{O} + 2 \text{e}^- \rightarrow \text{H}_2 + 2 \text{OH}^-$	-0.83
$\text{Al}^{3+} + 3 \text{e}^- \rightarrow \text{Al}$	-1.66
$\text{Na}^+ + \text{e}^- \rightarrow \text{Na}$	-2.71
$\text{Li}^+ + \text{e}^- \rightarrow \text{Li}$	-3.05

 * Q = quinone, H₂Q = hydroquinone