

Standard Reduction Potentials at 25 °C

Half-Cell Reactions	E°	Half-Cell Reactions	E°
$F_{2(g)} + 2 e^- \rightleftharpoons 2 F^-_{(aq)}$	+2.866	$Cu^{2+}_{(aq)} + e^- \rightleftharpoons Cu^+_{(aq)}$	+0.153
$OF_{2(g)} + 2 H^+ + 4 e^- \rightleftharpoons H_2O_{(l)} + 2 F^-_{(aq)}$	+2.153	$Sn^{4+}_{(aq)} + 2e^- \rightleftharpoons Sn^{2+}_{(aq)}$	+0.151
$O_{3(g)} + 2H^+_{(aq)} + 2e^- \rightleftharpoons O_{2(g)} + H_2O_{(l)}$	+2.076	$S_{(s)} + 2H^+_{(aq)} + 2e^- \rightleftharpoons H_2S_{(aq)}$	+0.142
$S_2O_8^{2-}_{(aq)} + 2e^- \rightleftharpoons 2 SO_4^{2-}_{(aq)}$	+2.010	$S_4O_6^{2-}_{(aq)} + 2e^- \rightleftharpoons 2 S_2O_3^{2-}_{(aq)}$	+0.08
$Ag^{2+}_{(aq)} + e^- \rightleftharpoons Ag^+_{(aq)}$	+1.9	$AgBr_{(s)} + e^- \rightleftharpoons Ag_{(s)} + Br^-_{(aq)}$	+0.071
$Co^{3+}_{(aq)} + e^- \rightleftharpoons Co^{2+}_{(aq)}$	+1.83	$2 H^+_{(aq)} + 2e^- \rightleftharpoons H_{2(g)}$	0.000
$H_2O_{2(aq)} + 2 H^+_{(aq)} + 2e^- \rightleftharpoons 2 H_2O_{(l)}$	+1.776	$Pb^{2+}_{(aq)} + 2e^- \rightleftharpoons Pb_{(s)}$	-0.126
$PbO_{2(s)} + SO_4^{2-}_{(aq)} + 4 H^+_{(aq)} + 2e^- \rightleftharpoons PbSO_{4(s)} + 2 H_2O_{(l)}$	+1.6913	$Sn^{2+}_{(aq)} + 2e^- \rightleftharpoons Sn_{(s)}$	-0.138
$MnO_4^-_{(aq)} + 4 H^+_{(aq)} + 3e^- \rightleftharpoons MnO_{2(s)} + 2 H_2O_{(l)}$	+1.679	$AgI_{(s)} + e^- \rightleftharpoons Ag_{(s)} + I^-_{(aq)}$	-0.152
$Mn^{3+}_{(aq)} + e^- \rightleftharpoons Mn^{2+}_{(aq)}$	+1.5415	$Ni^{2+}_{(aq)} + 2e^- \rightleftharpoons Ni_{(s)}$	-0.257
$MnO_4^-_{(aq)} + 8 H^+_{(aq)} + 5e^- \rightleftharpoons Mn^{2+}_{(aq)} + 4 H_2O_{(l)}$	+1.507	$Co^{2+}_{(aq)} + 2e^- \rightleftharpoons Co_{(s)}$	-0.28
$Au^{3+}_{(aq)} + 3e^- \rightleftharpoons Au_{(s)}$	+1.498	$PbSO_{4(s)} + 2e^- \rightleftharpoons Pb_{(s)} + SO_4^{2-}_{(aq)}$	-0.359
$PbO_{2(s)} + 4 H^+_{(aq)} + 2e^- \rightleftharpoons Pb^{2+}_{(aq)} + 2 H_2O_{(l)}$	+1.455	$Cd^{2+}_{(aq)} + 2e^- \rightleftharpoons Cd_{(s)}$	-0.403
$BrO_3^-_{(aq)} + 6 H^+_{(aq)} + 6e^- \rightleftharpoons Br^-_{(aq)} + 3 H_2O_{(l)}$	+1.423	$Fe^{2+}_{(aq)} + 2e^- \rightleftharpoons Fe_{(s)}$	-0.447
$Cl_{2(g)} + 2e^- \rightleftharpoons 2 Cl^-_{(aq)}$	+1.35827	$Ga^{3+}_{(aq)} + 3e^- \rightleftharpoons Ga_{(s)}$	-0.549
$O_{3(g)} + H_2O_{(l)} + 2 e^- \rightleftharpoons O_{2(g)} + 2 OH^-_{(aq)}$	+1.24	$PbO_{(s)} + H_2O_{(l)} + 2e^- \rightleftharpoons Pb_{(s)} + 2 OH^-_{(aq)}$	-0.580
$Cr_2O_7^{2-}_{(aq)} + 14 H^+_{(aq)} + 6e^- \rightleftharpoons 2 Cr^{3+}_{(aq)} + 7 H_2O_{(l)}$	+1.232	$Cr^{3+}_{(aq)} + 3e^- \rightleftharpoons Cr_{(s)}$	-0.744
$O_{2(g)} + 4 H^+_{(aq)} + 4e^- \rightleftharpoons 2 H_2O_{(l)}$	+1.229	$Zn^{2+}_{(aq)} + 2e^- \rightleftharpoons Zn_{(s)}$	-0.762
$MnO_{2(s)} + 4 H^+_{(aq)} + 2e^- \rightleftharpoons Mn^{2+}_{(l)} + 2 H_2O_{(l)}$	+1.224	$CdO_{(s)} + H_2O_{(l)} + 2e^- \rightleftharpoons Cd_{(s)} + 2 OH^-_{(aq)}$	-0.783
$Pt^{2+}_{(aq)} + 2e^- \rightleftharpoons Pt_{(s)}$	+1.18	$2 H_2O_{(l)} + 2e^- \rightleftharpoons H_{2(g)} + 2 OH^-_{(aq)}$	-0.828
$Br_{2(aq)} + 2e^- \rightleftharpoons 2 Br^-_{(aq)}$	+1.0873	$Fe(OH)_{2(s)} + 2e^- \rightleftharpoons Fe_{(s)} + 2 OH^-_{(aq)}$	-0.88
$NO_3^-_{(aq)} + 4 H^+_{(aq)} + 3e^- \rightleftharpoons NO_{(g)} + 2 H_2O_{(l)}$	+0.957	$Cr^{2+}_{(aq)} + 2e^- \rightleftharpoons Cr_{(s)}$	-0.913
$NO_3^-_{(aq)} + 3 H^+_{(aq)} + 2e^- \rightleftharpoons HNO_{2(g)} + H_2O_{(l)}$	+0.934	$N_{2(g)} + 4 H_2O_{(l)} + 4e^- \rightleftharpoons N_2O_{4(aq)} + 4 OH^-_{(aq)}$	-1.16
$2 Hg^{2+}_{(aq)} + 2e^- \rightleftharpoons Hg_{2}^{2+}_{(aq)}$	+0.920	$V^{2+}_{(aq)} + 2e^- \rightleftharpoons V_{(s)}$	-1.175
$2 NO_3^-_{(aq)} + 4 H^+_{(aq)} + 2e^- \rightleftharpoons 2 NO_{2(g)} + 2H_2O_{(l)}$	+0.803	$ZnO_{2(aq)} + 2 H_2O_{(l)} + 2e^- \rightleftharpoons Zn_{(s)} + 4OH^-_{(aq)}$	-1.215
$Ag^+_{(aq)} + e^- \rightleftharpoons Ag_{(s)}$	+0.7996	$Ti^{2+}_{(aq)} + 2e^- \rightleftharpoons Ti_{(s)}$	-1.630
$Fe^{3+}_{(aq)} + e^- \rightleftharpoons Fe^{2+}_{(aq)}$	+0.771	$Al^{3+}_{(aq)} + 3e^- \rightleftharpoons Al_{(s)}$	-1.662
$O_{2(g)} + 2H^+_{(aq)} + 2e^- \rightleftharpoons H_2O_{2(aq)}$	+0.695	$U^{3+}_{(aq)} + 3e^- \rightleftharpoons U_{(s)}$	-1.798
$I_{2(s)} + 2e^- \rightleftharpoons 2 I^-_{(aq)}$	+0.5355	$Mg^{2+}_{(aq)} + 2e^- \rightleftharpoons Mg_{(s)}$	-2.372
$NiO_{2(s)} + 2 H_2O_{(l)} + 2e^- \rightleftharpoons Ni(OH)_{2(s)} + 2 OH^-_{(aq)}$	+0.490	$Na^+_{(aq)} + e^- \rightleftharpoons Na_{(s)}$	-2.71
$SO_{2(aq)} + 4 H^+_{(aq)} + 4e^- \rightleftharpoons S_{(s)} + 2 H_2O_{(l)}$	+0.45	$Ca^{2+}_{(aq)} + 2e^- \rightleftharpoons Ca_{(s)}$	-2.868
$O_{2(g)} + 2 H_2O_{(l)} + 4e^- \rightleftharpoons 4 OH^-_{(aq)}$	+0.401	$Sr^{2+}_{(aq)} + 2e^- \rightleftharpoons Sr_{(s)}$	-2.89
$Cu^{2+}_{(aq)} + 2e^- \rightleftharpoons Cu_{(s)}$	+0.3419	$Ba^{2+}_{(aq)} + 2e^- \rightleftharpoons Ba_{(s)}$	-2.921
$Hg_2Cl_{2(s)} + 2e^- \rightleftharpoons 2 Hg_{(l)} + 2 Cl^-_{(aq)}$	+0.26808	$K^+_{(aq)} + e^- \rightleftharpoons K_{(s)}$	-2.931
$PbO_{2(s)} + H_2O_{(l)} + 2e^- \rightleftharpoons PbO_{(s)} + 2 OH^-_{(aq)}$	+0.247	$Rb^+_{(aq)} + e^- \rightleftharpoons Rb_{(s)}$	-2.98
$AgCl_{(s)} + e^- \rightleftharpoons Ag_{(s)} + Cl^-_{(aq)}$	+0.22233	$Cs^+_{(aq)} + e^- \rightleftharpoons Cs_{(s)}$	-3.026
$SO_4^{2-}_{(aq)} + 4H^+_{(aq)} + 2e^- \rightleftharpoons H_2SO_{3(aq)} + H_2O_{(l)}$	+0.172	$Li^+_{(aq)} + e^- \rightleftharpoons Li_{(s)}$	-3.040