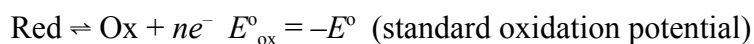
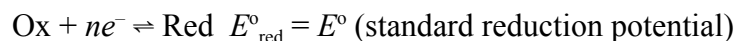


STANDARD REDUCTION POTENTIALS, E°

The measure of a substance's relative oxidizing power is its **standard reduction potential, E°** , defined by the following conventions:

1. The *standard reduction potential, E°* , is defined for a half reaction of the type $\text{Ox} + ne^- \rightleftharpoons \text{Red}$
2. All E° values assume 1 M concentrations and/or 1 atm partial pressure for all species at 25°C. These define *standard conditions*.
3. For the half reaction $2\text{H}^+(\text{aq}) + 2e^- \rightleftharpoons \text{H}_2(\text{g})$ under standard conditions, we define $E^\circ \equiv 0$ volt (exactly). All other standard reduction potentials for other couples are determined relative to this arbitrary standard.
4. Oxidants that gain electrons better than $\text{H}^+(\text{aq})$ [stronger oxidants than $\text{H}^+(\text{aq})$] have $E^\circ > 0$ (i.e., +) for their reduction $\text{Ox} + ne^- \rightleftharpoons \text{Red}$.
5. Oxidants that gain electrons worse than $\text{H}^+(\text{aq})$ [weaker oxidants than $\text{H}^+(\text{aq})$] have $E^\circ < 0$ (i.e., -) for their reduction $\text{Ox} + ne^- \rightleftharpoons \text{Red}$.
6. The *standard oxidation potential* is the negative of the standard reduction potential and refers to the potential of the half reaction $\text{Red} \rightleftharpoons \text{Ox} + ne^-$. Thus,



- ☞ We will always use E° (without subscript) to refer to the reduction potential of a couple.