22. The electron affinity of an element is the energy change when one mole of gaseous atoms combines with one mole of electrons to form one mole of gaseous ions.

Which of the following equations represents the electron affinity of chlorine?

A $Cl(g) + e^- \rightarrow Cl^-(g)$

B $\frac{1}{2}Cl_2(g) + e^- \rightarrow Cl^-(g)$

C $\frac{1}{2}Cl_2(g) \rightarrow Cl^+(g) + e^-$

D $Cl(g) \rightarrow Cl^+(g) + e^-$