**Predicting the Direction of Acid – Base Reactions.**

**If you mix equal concentrations of reactants and products, the direction of the reaction can be identified by:**

1. **Identifying the acids and the bases.**
2. **Using a given table of relative strengths of acids and bases.**

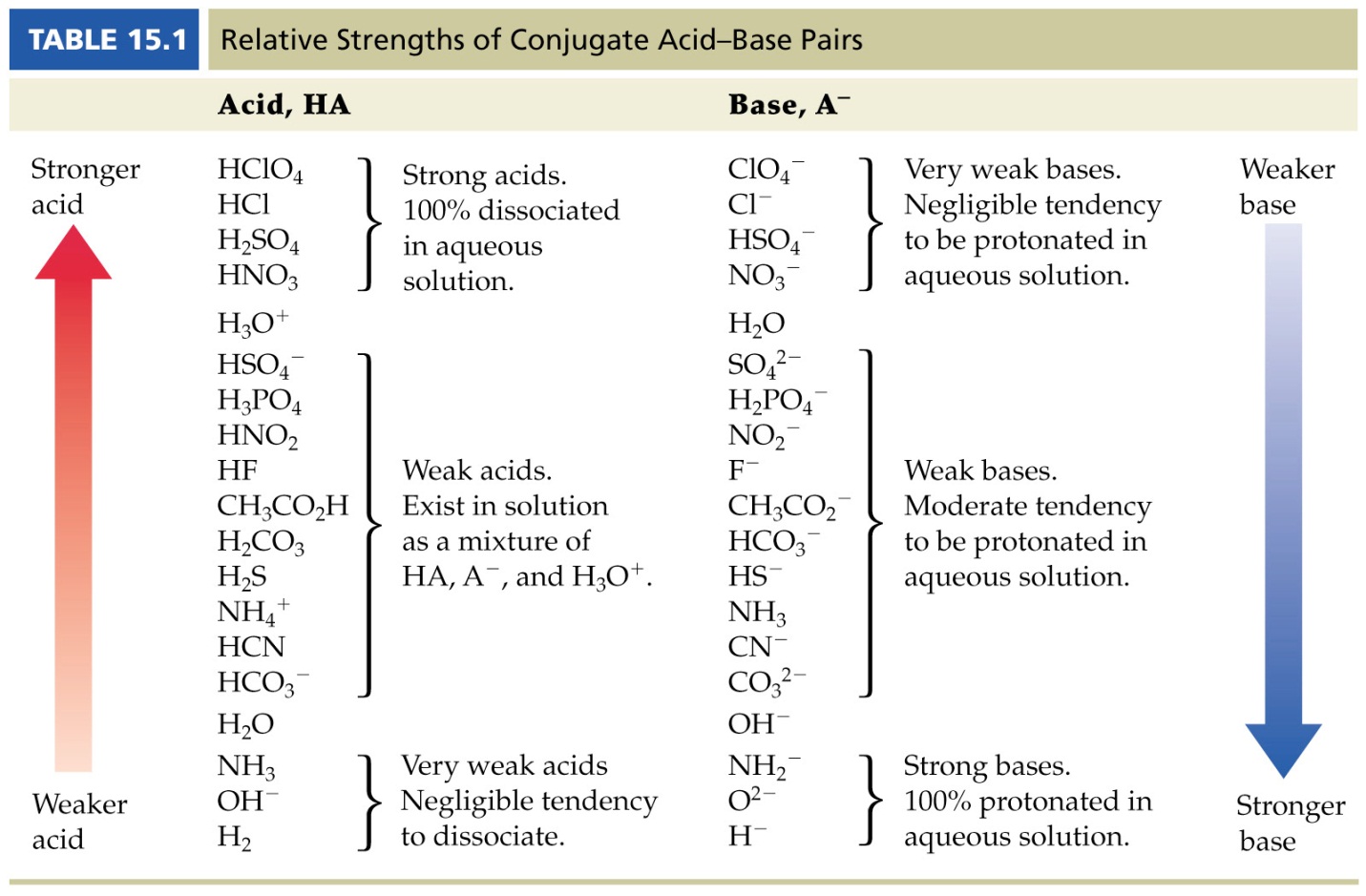
**Example A.)**

**H2SO4 (aq) + NH3 (aq) NH4+(aq) + HSO4-(aq)**

**When equal concentrations of reactants and products are present, proton transfer always occurs from the stronger acid to the stronger base.**

**In reaction A.), H2SO4 and NH4+ are the acids and NH3 and HSO4- are the bases.**

**According to table 15.1, H2SO4 is a stronger acid than NH4+ and NH3 is a stronger base than HSO4-.**



**Therefore, NH3 gets the proton and the reaction proceeds from left to right.**

**H2SO4 (aq) + NH3 (aq) 🡪 NH4 +(aq) +HSO4 (aq)-**

**Stronger acid Stronger base Weaker acid Weaker base**