**Unit 3 Normality**

**Disproportionation** means an element is both oxidized and reduced.

**Normality** is the number of equivalents (H\(^+\), OH\(^-\) for acid/base reactions or what supplies one mol of electrons in a redox) of a substance dissolved in one liter of solution.

Normality: 1 N = 1 mol H\(^+\) / 1 liter  
\[
3 \text{ M } \text{H}_2\text{SO}_4 = 3 \text{ mol } \text{H}_2\text{SO}_4 / 1 \text{ liter}, \text{ but it has two hydrogens so normality} = [(3 \text{ mol } \text{H}_2\text{SO}_4) \cdot (2 \text{ mol } \text{H}^+)] / 1 \text{ liter} = 6 \text{ N } \text{H}^+ \text{ in } \text{H}_2\text{SO}_4
\]

Molarity and Normality are only equal, if there is just one H\(^+\) or one OH\(^-\) in the compound (or one mol of electrons in a redox).

*End of Notes*