**More Complete Chemical Equations – KEY**

Write the complete equation for each of these processes:

1. When pellets of sodium hydroxide are added to pure sulfuric acid, sodium sulfate powder and water are formed. This reaction spontaneously generates a huge amount of heat, so make sure that you do it slowly to avoid splashing the sulfuric acid!

**2 NaOH(s)­ + H2SO4(l) → Na2SO4(s) + 2 H2O(l)** **ΔH = -**

1. Concentrated solutions of sulfuric acid are unstable, degrading into water and sulfur trioxide gas. This process generates a lot of heat, so make sure it doesn’t boil over!

**H2SO4(aq) → H2O(l) + SO3(g)  ΔH = -**

1. When pure, liquid acetic acid is shaken up with a solution of sodium carbonate, a solution of sodium acetate is formed, as is liquid water and bubbles of carbon dioxide. The container in which this reaction occurs becomes notably colder as the reaction proceeds.

shake

**2 HC2H3O2(aq) + Na2CO­3(aq)** **→ NaC2H3O2(aq) + 2 H2O(l) + CO2(g)  ΔH = +**