

## Lab-report # 4

Date: 97-11-07 Time: 12.55-14.20

### ***Factors affecting reaction rates :***

#### **Work to be done:**

- Find out what factors that effect a reaction by experiment.

#### **Chemicals and apparatus:**

- Spoon
- Test-tubes
- Water
- Beakers
- Glowing splint
- Citric acid,
- Magnesium powder, Mg
- Hydrochloric acid, HCl
- Zinc, solid and powder
- Acetic acid, HAc
- Diluted hydrogenperoxide
- MnO<sub>2</sub>

#### **Lab:**

##### Lab 1:

First I mixed equal volumes of citric acid and magnesium powder. At first there was no reaction. I then added some water, and there was a reaction.

##### Lab 2:

I poured the same amount of hydrochloric acid in two beakers and then added zinc, solid zinc in one beaker and powder in the other. The fastest reaction occurred in the beaker where I had zinc as powder.

##### Lab 3:

I added the same amount of acetic acid in two beakers and then heated one of then to 60°C. I then added three centimeters of a magnesium ribbon into the two beakers and saw that the reaction was faster in the beaker I've heated.

##### Lab 4:

I filled a testtube to the half with dilluted hydrogenperoxide, and tested if there was any oxygen with a glowing splint – there was none. I then added a piece of MnO<sub>2</sub> in the testtube and tried again with the splint. There was some oxygen cause the splint began to burn. The hydrogenperoxide continued to bubble but the piece of MnO<sub>2</sub> remained.

##### Lab 5:

I filled a testtube to the half with hydrochloric acid and an other only one quarter with the same liquid and a quarter with water. I then tested the reaction rate with

a piece of magnesium in each tube. The reaction rate was highest in the first tube with high concentration of hydrochloric acid.

Conclusion:

There are some important things that can affect the reaction rate of a reaction; presence of water, the area that may react, presence of heat, the presence of catalysts and concentration of the reactants.