**Week 9:**

**The Gravimetric Determination of Nickel**

**INTRODUCTION**

Nickel(II) forms a precipitate with the organic compound dimethylglyoxime, C4H6(NOH)2. The formation of the red chelate occurs quantitatively in a solution in which the pH is buffered in the range of 5 to 9. The chelation reaction that occurs is illustrated below.



**Procedure:**

1- Weigh accurately a 0.2 g sample of the nickel(NiSO4.7H2O) - into a 400-cm3 beaker.

2- Add 3ml of concentrated HCl , dilute the solution to about 200 ml with distilled water.

3-. Heat the solution to about 70 oC , add 50 ml of the 1% dimethylglyoxime solution followed by dilute aqueous ammonia dropwise, with stirring, allow to stand on a Water-bath for 30 minutes and then at room temperature until cold (about 30 minutes).

4-. Filter the solution through a previously dried and weighed crucible.

5- Finally, wash with cold distilled until the washings are chloride-free. Dry at 120 oC for one hour, cool in a desiccator and weigh as Ni(C4H7O2N2)2

6- Calculate the per cent nickel in the sample.