Phosphate

The chemical composition of phosphate that present in water depend on quantity of waste product and hydrogen number.

Classification of phosphate compounds:

1. Ortho phosphate
2. Organic phosphate.
3. Poly phosphate.

Eutrophication:

Excess nitrogen concentration in water with phosphate cause Eutrophication phenomenon that happen when inorganic nitrogen concentration in water become more than (0.3 mg/l) and phosphorus concentration (0.01 mg/l).

This phenomenon is one of the environmental pollution phenomenon that lead to excessive growth of algae, which is followed by a decrease in the amount of dissolved oxygen as a result of its consumption in the breaking of algae by aerobic bacteria, when oxygen decreases, the anaerobic bacteria begins analysis process. The result is poisoning materials and foul gases like methan, ethan and amonia.

Mechanical Measurement:

The water sample that contain dissolved phosphate (Ortho phosphate) joined with ammonia molybdenum its color may be form pale yellow to colorless, then formed compound that reduced by $SnCl_3$ to form blue color compound (Molypedium).

This blue color depended on phosphorus concentration and temperature of solution, so there should be (20-30) degree of temperature.

Procedure (Reduction method):

1. Take 50 ml of sample.
2. Add one drop of phenonephthaliane if it colored with pinkish, then start to add drop by drop from strong acid until the color is abolished while if not colored add strong acid.
3. Add (4 ml) of Ammonium Molypedium.
4. Add (5) drops of $SnCl_3$ to form Molypedium blue.
5. Calculate the time interual after finished from adding last drop of $SnCl_3$ (10 – 12 min) and after finished measured by spectrophotometer on wavelength (690nm). In addition, not reading after (12 min).