

Pollution lab 6

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Water acidity



Background Information

Water acidity: The acidity of water represents its ability to give protons that come from:

- ▶ 1. De-ionized molecules of ionized weak acids such as (carbonic acid and tannic acid).
- ▶ 2. Ferrous and aluminum salts
- ▶ 3. Weak mineral acids. Such as (sulfuric acid or hydrochloric acid).

Background Information

- ▶ CO₂ is the most likely cause of acidity in water, its result of respiration and autolysis Process of plants & animals in water. CO₂ concentrations effect to (pH) values in water that have different effects on aquatic organism, some of organism can lived in acidic medium reach to (pH = 2). So pH values vary throughout the day due to respiration and photosynthesis process that cased different acidity values in water.

Procedure:

- ▶ Because CO_2 is the most likely cause of acidity in water, the water sample should be collected within a few hours of the time of analysis. The container used to collect the water should be filled completely and closed with an air-tight seal. A clean plastic soft drink bottle with screw cap is suitable for water samples tested. in this procedure.

Test Procedure:

- ▶ 1. Take 100 ml from water sample either supplement or irrigated water by cylinder and put it in a flask.
- ▶ 2. Add 3 drops from **phenolphthalein** as indicator solution.
- ▶ 3. Titrate with 0.025N **sodium hydroxide** solution (NaOH).
- ▶ 4. Stir the water sample gently during the titration.
- ▶ 5. The (end point) of titration is the **start of pink color appearance** in the solution.
- ▶ 6. Record the volume of (NaOH) and calculate water acidity by following equation:

$$\text{Acidity} = \frac{(\text{ml NaOH titrant}) * (\text{Normality NaOH}) * 1000}{(\text{ml water sample})}$$