

Pollution lab 11

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Determination of Magnesium in Water

Background information

Magnesium (Mg)

- ▶ The main source of magnesium is the carbonate rocks. It could be seen that the concentration of magnesium might range between 5-50 mg/L on regions rich with this type of rocks, and it effects water hardness, and its existence is necessary for plant growth, and plays an important role in constructing chlorophyll. The best concentration of magnesium is 30 mg/L and the highest allowed value is 150 mg/L.

Test procedure

- ▶ Take 50 ml of water sample in flask.
- ▶ Add (7-9) drops of buffer solution to reach pH-10
- ▶ Add 0.2 gm of **Erichrome black stain** to become pale pink.
- ▶ Titrate this mixture with **EDTA** slowly with continuous moving until change the color from **pink to pale blue**
- ▶ The dropping volume account by using the equation;

$$\text{Mg mg/L} = \frac{\text{titrate of EDTA} * 1000}{\text{Volume of sample}}$$

Test procedure

- ▶ ***To get the filtrate water from soil:**
- ▶ Take 50 mg of soil and add 200 ml of distilled water and shake the flask to 1/2 hr. then take 50 ml from the product.