

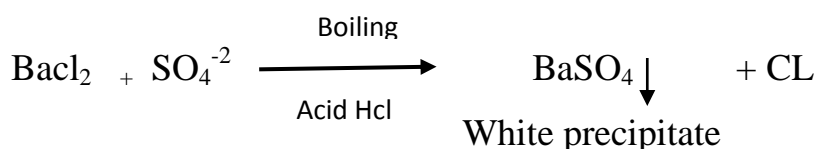
Measurement of sulfate (SO₄) in water

The sulfur usually present in nature in the form of ion SO₄⁻² combined with positive ions, which presented in water. Its concentrations range from little milligrams to hundred milligrams.

Method of measurement:

The method used in measurement SO₄⁻² is weighting method in burning precipitate:-

1. Take 50 ml from water sample and put it clean glass beaker.
2. Add 1 ml of diluted Hcl in rate of 1:1 (equal amount of acid and sample water).
3. Heat the beaker until boiling degree, during the boiling add some amount from Barium chloride (BaCl₂) with mobilizing, and continues shaking until forming white precipitate.



4. Put the beaker on hot surface with 80-90 c° for period not less than 2 hours.
5. Filtrate the forming precipitate by filter paper.
6. Put the precipitate with filter paper in known weight ceramic bowl and put it in oven in 800 c° for 1 hour to complete the burning process.
7. After extract the bowl from oven; cool it to the room temperature, then weight it with the precipitate accurately.
8. Calculate the amount of resulted SO₄⁻² but using the following equation.

$$\text{SO}_4^{-2} \text{ mg/l} = \frac{4/1.5 * \text{weight of precipitate} * 1000}{\text{Sample volume}}$$