

Rizkiyah (KB 2016)

Mojokerto Regency Government

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I have internship experience at Mojokerto Regency Government on 10th June – 10th July 2019. One of my tasks during my internship was analysis metal content in water using atomic adsorption spectrophotometry and analysis chemical oxygen demand using COD reactor and UV-Visible spectrophotometry. Analysis metal content on Mojokerto Regency government using wet destruction preparation method. While the instrument used is the Atomic Absorption Spectrophotometer (AAS) AA6300 with acetylene gas as the combustion gas and nitrous oxide as the oxidant. The wavelength used for metal content analysis using AAS in this research was 248.3 nm.

In the analysis of metal content, a standard solution of the metal is needed. The concentration of the standard solution used is 0 ppm, 2 ppm, 4 ppm, 8 ppm and 10 ppm who made from solution with concentration 1000 ppm. from the standard solution is then used to create a standard curve using AAS.

Determination of metal content in water samples is divided into two method, namely total and dissolved metals. The total metal was used for the analysis of some metals using the wet destruction method while the dissolved metal was used for all metals using the filtration method. as previously mentioned that in this study the method used is the wet destruction method. In this method, acid is added to the sample, then it is destructed and analyzed for metal content using AAS.

Chemical oxygen demand (COD) analysis method is the wet chemistry method. This involves a two hour digestion at high heat under acidic conditions in which potassium dichromate acts as the oxidant for any organic material present in a water sample. The instrument used in COD analysis is the UV-Visible instrument.



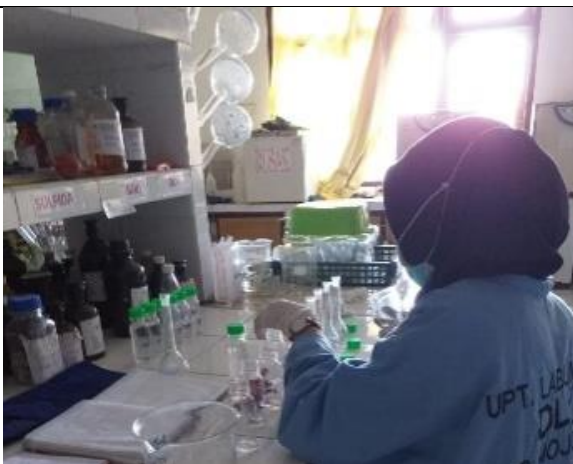
Sample preparation for Fe metal content analysis



Sampel filtration



Hollow cathode lamp replacement on AAS



Preparation of standard solution



Determination of standard curve