ABSTRACT

Agus Sholeh 1534045, 2019. The different ammonium measurement result using UV-Vis Spectrophotometer with reference Fenat Standard Method at the ambient temperature and 60 minutes incubation time and 50^{o}C of room temperature and 30 and 20 minutes incubation times. Bachelor Thesis of DIV Health Analyst, Faculty of Medical Science, Universitas Katolik Musi Charitas Palembang.

Background: Water is natural compound which plays an important role to support human and all the functioning of most known life-forms (Animal, Plant, Microorganism). Human and other organisms can not survive in the water absences and both (water and all the living organism) can not be separated. It is because water is part of living substances. However, water is easy contaminated when it exposes to the soil, air, and the other water source. One of the most concern chemical contaminated water is ammonia. Ammonia is a chemical substance which has a liquid form, colorless, pungent smell, and have high solubility in water. In nature, ammonia can be easily found in water, soil, and air.

Method: The present research is a true experiment in which all the water sample was taken from the well of the community in Sukakarya Street, Resident Number (RT (in Bahasa Indonesia) no. 38, sub-district, Sukarame, sub-sub district, Sukarame, Palembang. Toral sampling method was used during the water sampling. After the sampling activities, all the water samples were analyzed at Laboratorium Balai Riset dan Standarisasi Industri (BARISTAND) di Jl. Perindustrian II KM. 9 Palembang.

Result: The verification result yielded the linearity value (r) = 0,998 with the regression equation (y) = 0,0098 - 0,0099. The further analysis found that the limit of detection (LOD) and the limit of quantification (LOQ) were 0,00924 and 0,0308, respectively. The precision analysis was found as 0,65% with the average accuracy of 99,92%. In normal distribution analysis, all the obtained water analysis result had a normal distribution which proved by the significance value (p). To be more specific, the first condition (at ambient temperature and 60 minutes incubation time) had the p-value of 0.148. The second condition (at 50^{o}C and 30 minutes incubation time) had the p-value of 0.109. The third condition (at 50^{o}C and 20 minutes incubation time) had the p-value of 0.199. All the condition had a higher p-value than the significance level (α 0.05) (p-value > 0.05). This result was supported by Repeated Anova which showed the significance value of 0.475.

Conclusion: The results confirmed that there was no different result in the ammonium analysis in each condition.

Keywords: Ammonia (NH_3), Temperature, Incubation, Analysis