ABSTRAK

MARIA MISTIKA SURA LAGA, 2023, ANALISIS KANDUNGAN LOGAM TIMBAL (Pb) PADA PENAMPUNGAN AIR SUMUR BOR DI DESA LEWOKELENG KEC. ILEBOLENG SECARA SPEKTROFOTOMETRI SERAPAN ATOM (SSA), SKRIPSI, FAKULTAS FARMASI, UNIVERSITAS SETIA BUDI, SURAKARTA. Dibimbing oleh Dr. Nuraini Harmastuti, S.Si., M.Si dan Dr. Supriyadi, M.Si

Air merupakan sumber daya alam yang sangat dibutuhkan dalam kehidupan sehari-hari. Air bor merupakan salah satu alternatif saat ketersediaan air bersih berkurang, air bor sering mengandung logam berat yang berlebihan akibat pencemaran lingkungan sehingga dapat mengganggu kesehatan misalnya kerusakan hati, ginjal dan syaraf. Tujuan penelitian ini adalah untuk mengetahui apakah air sumur bor yang digunakan masyarakat desa Lewokeleng mengandung logam timbal (Pb). Untuk mengetahui berapa kadar logam timbal (Pb) yang terkandung dalam sampel air sumur bor di desa Lewokeleng secara Spektrofotometri Serapan Atom.

Pengambilan sampel dilakuakn pada tiga titik sumur air bor di desa Lewokeleng. Penentuan kandungan logam timbal (Pb) secara kualitatif dilakukan dengan menambahakn reagen (KI dan ammonia) pada sampel. Sedangkan penetapan kadar dilakukan secara Spektrofotometri Serapan Atom.

Hasil penelitian menunjukan bahwa uji kualitatif terdapat adanya kandungan timbal (Pb) pada semua sampel air ditandai dengan adanya endapan setelah ditambahkan reagen. Hasil uji kuantitatif secara spektrofotometri serapan atom menunjukan rata-rata kadar timbal pada sampel air 1 sebesar 0,0681 mg/L, sampel air 2 sebesar 0,0365 dan sampel air 3 sebesar 3,4580 mg/L. Dari hasil tersebut dapat disimpulkan bahwa kadar timbal pada sampel air 1,2 dan 3 melewati abang batas yang telah ditentukan dalam Permenkes RI No.492/MENKES/PER/IV/2010 tentang persyaratan kualitas air minum sebesar $\leq$ 0,01 mg/L.

Kata kunci : air, logam timbal, spektrofotometri serapan atom

ABSTRACT

MARIA MISTIKA SURA LAGA, 2023, ANALYSIS OF LEAD (Pb) METAL CONTENT IN THE COLLECTION OF BOREHOLE WATER IN LEWOKELENG VILLAGE, ILEBOLENG SUB-DISTRICT, USING ATOMIC ABSORPTION SPECTROPHOTOMETRY (AAS), THESIS, FACULTY OF PHARMACY, SETIA BUDI UNIVERSITY, SURAKARTA. Guided by Dr. Nuraini Harmastuti, S.Si., M.Si and Dr. Supriyadi, M.Si

Water is a natural resource that is essential in daily life. Borehole water is one of the alternatives when the availability of clean water is limited. Borehole water often contains excessive heavy metals due to environmental pollution, which can adversely affect health, such as liver, kidney, and nerve damage. The objective of this research is to determine whether the borehole water used by the residents of Lewokeleng village contains lead (Pb) metal. To ascertain the concentration of lead (Pb) metal in borehole water samples in Lewokeleng village, Atomic Absorption Spectrophotometry is utilized.

Sampling was conducted at three points of borehole wells in Lewokeleng village. The qualitative determination of lead (Pb) metal content was performed by adding reagents (KI and ammonia) to the samples. Meanwhile, the quantitative determination was carried out using Atomic Absorption Spectrophotometry.

The research results indicate that in the qualitative test, lead (Pb) content was found in all water samples, marked by the presence of precipitate after the addition of reagents. The quantitative test using atomic absorption spectrophotometry showed an average lead content in water sample 1 of 0.0681 mg/L, in water sample 2 of 0.0365 mg/L, and in water sample 3 of 3.4580 mg/L. From these results, it can be concluded that the lead levels in water samples 1, 2, and 3 exceed the specified limit in the Indonesian Ministry of Health Regulation No. 492/MENKES/PER/IV/2010 regarding the quality requirements for drinking water, which is ≤ 0.01 mg/L.

Keywords: water, lead, atomic absorption spectrophotometry