INTISARI

MAGHFIROH, I.Z., 2019, ANALISIS LOGAM TIMBAL (Pb) PADA AIR SUMUR DI SEKITAR TPAPUTRI CEMPO MOJOSONGO SURAKARTA SECARA SPEKTROFOTOMETRI SERAPAN ATOM (SSA), KARYA TULIS ILMIAH, FAKULTAS FARM ASI, UNIVERSITAS SETIA BUDI SURAKARTA.

Air sumur digunakan sebagai sumber air untuk berbagai kebutuhan rumah tangga, industri kecil, menengah dan besar yang rentan tercemar oleh sampah masyarakat dan logam berat. Timbal (Pb) merupakan logam berat yang terbesar lebih luas di alam dibandingkan logam toksik lain. Akumulasi Pb dalam tubuh menyebabkan gangguan dan kerusakan saraf, hati, ginjal, tulang dan otak. Menurut PERMENKES RI No. 32 tahun 2017, menyatakan bahwa kadar maksimal cemaran logam berat timbal (Pb) dalam air untuk keperluan *higiene* sanitasi sebagai air baku air minum yaitu sebesar 0,05 mg/L (ppm). Tujuan dari penelitian ini adalah mengetahui kadar kandungan logam Timbal (Pb) dalam air sumur di daerah TPA sampah memenuhi syarat atau tidak sesuai PERMENKES/2017.

Penelitian dilakukan dengan menggunakan metode spektrofotometri serapan atom, dimana sampel harus dilakukan destruksi basah agar ikatan unsur logam dengan matriks sampel terpisah dan diperoleh logam dalam bentuk atom bebas. Hasil destruksi dengan HNO_3 pekat kemudian ditambah aquabidest sampai tanda batas. Larutan sampel kemudian dibaca pada panjang gelombang 283,3 nm.

Hasil identifikasi menunjukkan bahwa keseluruhan dari 5 sampel air sumur di sekitar TPA sampah Putri Cempo Mojosongo Surakarta mengandung Timbal (Pb). Kadar Timbal (Pb) air sumur di daerah tempat pembuangan akhir sampah, yaitu 7,285 mg/L (Sumur A); 6,513 mg/L (Sumur B); 6,369 mg/L (Sumur C); 6,283 mg/L (Sumur D); 5,739 mg/L (Sumur E). Jumlah maksimum Timbal (Pb) yang dapat dikonsumsi masyarakat berdasarkan PERMENKES RI No.32 tahun 2017, yaitu 0,05 mg/L.

Kata Kunci : Air Sumur, Timbal, Destruksi, Spektrofotometri Serapan Atom

ABSTRACT

MAGHFIROH, I.Z., 2029., ANALYSIS OF LEAD (Pb) METAL IN THE WELL WATER AROUND THE LANDFILLS IN PUTRI CEMPO MOJOSONGO SURAKARTA BY USING ATOMIC ABSORPTION SPECTROPHOTOMETRY (AAS), SCIENTIFIC PAPER, FACULTY PHARMACY, UNIVERSITAS SETIA BUDI, SURAKARTA.

Well water is used as a source of water for varios household needs, small, medium and large industries which are vulnerable to being contaminated by community waste and heavy metals. Lead (Pb) is the largest heavy metals winder in nature than other toxic metals. Pb accumulation in the body causes interference and damage to nerves, liver, kidneys, bones and brain. According to Republic of Indonesia Ministry of Education No.32 of 2017, states that maximum level of lead (Pb) heavy metal contamination in water for sanitation hygiene as raw water for dinking water is equal to 0,05 mg/L (ppm). The purpose of this study is to determin the levels of Lead metal content (Pb) in well water in the landfill area that meets the requirements or not according to PERMENKES/2017.

The study was carried out using atomic absorption spectrophotometry method, where the sample must be wet destructed so that the metal element bonds whit the sample matrix are separated and obtained by metal in the form of free atoms. The results of destruction with concentrated HNO_3 are then added by aquabidest to the boundary mark. The sample solution is the read at a wevelength of 283,3 nm.

The result of the identification showed that all of the 5 samples of well water around the garbage dump of Putri Cempo Mojosongo Surakarta contained Lead (Pb). Level of Lead (Pb) of well water in the area of waste diposal, which is 7,285 mg/L (Well A); 6,513 mg/L (Well B); 6,369 mg/L (Well C); 6,283 mg/L (Well D); 5,739 mg/L (Well E). the maximum amount of Lead (Pb) that can be consumed by the community is based on RI PERMENKES No.32 of 2017, which 0,05 mg/L.

Keywords: *Well Water, Lead, Destruction, Atomic Absorption Spectrophotometry*