ABSTRAK

Timbal (Pb) adalah logam berat yang bersifat toksik dan dapat menyebabkan keracunan dan terakumulasi dalam tubuh manusia. Mekanisme masuknya timbal ke dalam tubuh manusia dapat melalui sistem pernapasan, oral, ataupun langsung melalui permukaan kulit. Timbal yang diabsorbsi dalam tubuh sebanyak 95% diikat oleh eritrosit kemudian diangkut oleh darah ke organ-organ tubuh dan kemudian akan disimpan dalam jaringan lunak (sumsum tulang, sistem saraf, ginjal, hati) serta jaringan keras (tulang, kuku, rambut, gigi). Karyawan Stasius Pengisian Bahan Bakar Umum (SPBU) adalah profesi yang berkaitan langsung dengan sumber pencemaran logam terdapat didalam bahan bakar minyak dan pencemaran udara asap kendaraan bermotor. Penelitian ini bertujuan untuk mengetahui kadar Timbal (Pb) yang terdapat pada rambut karyawan SPBU di Jl. Kapten Muslim Medan. Penelitian ini bersifat deskriptif. Kadar Timbal (Pb) ditentukan dengan menggunakan SSA. Spektrofotometer serapan atom (SSA) adalah suatu metode yang digunakan untuk menentukan unsur-unsur dalam suatu sampel yang berbentuk larutan. Prinsip dari analisa SSA didasarkan proses penyerapan energi oleh atom- atom yang berapa pada tingkat tenaga dasar (ground state). Menurut WHO tahun 1995 batasan kadar timbal (Pb) pada rambut yaitu di bawah 10 mg/L (ppm) dikategorikan rendah, dan di atas 25 mg/L dikategorikan tinggi. Berdasarkan hasil penelitian analisa kadar timbal (Pb) pada rambut karyawan SPBU di Jl. Kapten Muslim Medan tentang tingkat pencemaran kadar timbal di tubuh manusia (<10 ppm), yaitu sampel R1 = 1,3 ppm, R2 = 7 ppm, R3 = 5,9 ppm, R4 = 2,3 ppm, R5 = 16 ppm, penulis menyatakan bagi karyawan SPBU agar tetap memperhatikan alat pelindung diri pada karyawan SPBU dengan baik, bagi peneliti selanjutnya, penulis menyarankan untuk meneliti logam-logam berat lainnya pada rambut.

Kata Kunci : Petugas SPBU, rambut, Timbal(Pb), SSA (Spektrofotometer Serapan Atom)

ABSTRACT

Lead (Pb) is a heavy metal that is toxic and can cause poisoning and accumulates in the human body. The mechanism of lead entry into the human body can be through the respiratory system, orally, or directly through the skin surface. Lead that is absorbed in the body as much as 95% is bound by erythrocytes and then transported by the blood to the organs of the body and then will be stored in soft tissues (bone marrow, nervous system, kidneys, liver) and hard tissues (bones, nails, hair), tooth). Gas station employees are professions that are directly related to the source of metal pollution contained in fuel oil and air pollution from motor vehicle fumes. This study aims to determine the levels of Lead (Pb) contained in the hair of gas station employees Jl. Captain Muslim Medan. This research is descriptive. Lead (Pb) levels were determined using ASS. Atomic absorption spectrophotometer (AAS) is a method used to determine the elements in a sample in the form of a solution. The principle of the SSA analysis is based on the energy absorption process by which atoms are at the basic energy level (ground state). According to WHO in 1995, the limit of lead (Pb) levels in hair, which is below 10 mg/L (ppm) is categorized as low, and above 25 mg/L is categorized as high. Based on the results of the analysis of lead (Pb) levels in the hair of gas station employees on Jl. Captain Muslim Medan regarding the level of lead contamination in the human body (<10ppm), namely samples R1 = 1,3 ppm, R2 = 7 ppm, R3 =5,9 ppm, R4 = 2,3 ppm, R5 = 16 ppm, the author states for gas station employees to pay attention to personal protective equipment at gas station employees well, for future researchers, the authors suggest researching other heavy metals in hair.

Keywords: gas station attendant, hair, Lead(Pb), SSA (Atomic absorption spectrophotometer)