ABSTRACT

UrbanusDwi Adi Pitoyo, NIM: 1534051, 2019. The Differences in Results of Lead (Pb) Inspection Using UV-Vis Spectrophotometry with Dithizone Complexes and Atomic Absorption Spectrophotometry. The research. DIV Health Analyst Program at the Katolik Musi Charitas University.

Background: Lead metal (Pb) as one of the heavy metals that is harmful to health. Levels of lead contamination shouldn't exceed the permissible limit, which is 1 ppm in industrial estates. This study aims to determine the results of differences in lead metal examination using UV-Vis spectrophotometry with Ditizone complex and Atomic Absorption Spectrophotometry. Examination of lead levels in both standard methods begins with the verification process by measuring linearity, accuracy, precision, LOD and LOQ.

Method: The type of research used is the Comparative Study, the study was conducted at the Palembang Industrial Baristand Laboratory. The sample used is Certified References Lead Materials issued by NIST. The results of lead examination using UV-Vis spectrophotometry with Dhitizone complexes and Atomic Absorption Spectrophotometry analyzed by the Paired T test.

Results: The results of the five consecutive samples using the Dhitizone Complex UV-Vis Spectrophotometry method were 0.801 ppm; 1,108 ppm; 1,914 ppm; 2,904 ppm; and 4.992 ppm. While the samples using Serapa Atom Spectrophotometry were 0.729 ppm; 1,153 ppm; 2,817 ppm; 3,170 ppm; 5,114 ppm. The results of the Paired T Test statistical test show a value that is sig = 0.215, which means the sig test value is> 0.05 (2-Tailed).

Conclusion: The results of lead examination using UV-Vis spectrophotometry with Dhitizone complexes are not different from Atomic Absorption Spectrophotometry.

Keywords: Lead (Pb), CRM, UV-Vis Spectrophotometry, Atomic Absorption Spectrophotometry.