***ABSTRACT***

***Migration of Heavy Metals (Pb and Cd) of Glazed Ceramic Material into The Drinking Water***

*Colored glaze for ceramics is known to have Cadmium and Lead as its ingredients. Cadmium and other heavy metals in ceramics glaze has been known to be migrated from container to the liquid content. Model, mechanism, and rate of migration of Cadmium and Lead are determined by using Atomic Absorption Spectrophotometry. Before the main research, the AAS equipment was verified and the equipment was in condition to be used. Linearity is near 1, limit of detection for Lead and Cadmium are 5,4489.10-4 and 1,93.10-3. Limit of quantitation for Lead and Cadmium are 1,8163.10-4 and 6,42.10-5, repeatability and precision are less than 2 from standard value and coefficient of variation is less than 2% and recovery yield for Lead and Cadmium are 99,04% and 100,35%. It is found that there is a strong relationship between time of contact and liquid temperature with the migration of those heavy metals (r~1). Rate of migration follows first order of reaction and constant of rate (K) for Lead and Cadmium are 2,0577.10-4 and 2,6310.10-4. Activation energy (Ea) for Lead and Cadmium are 1,1922.10-3 kal.mol-1.K-1 and 7,948.10-3 kal.mol-1.K-1. And these values are considered to be low activation energies and it is concluded that the use of container with ceramics glaze must be controlled.*