ASSESSMENT OF Cd, Cr, Pb AND Zn FROM SEMI-URBAN SOIL

FATEHAH BT MOHD GHAZALI

Final Year Project Report Submitted in
Partial Fulfillment of the Requirements for the
Degree of Bachelor of Science (Hons.) Chemistry
In the Faculty of Applied Sciences
Universiti Teknologi Mara

JULY 2017

ABSTRACT

ASSESSMENT OF Cd, Cr, Pb AND Zn FROM SEMI-URBAN SOIL

Human body may be directly exposed to heavy metal in semi-urban soils through ingestion, inhalation and dermal contact of soil particle. A total of 12 samples were collected from semi-urban area of the roadside of Jalan Berlian, Jengka Pahang. This study aimed to determine the concentration of selected metal and to evaluate the health risk assessment (HRA) from different exposure pathways. Concentration of Cd (1.00 $mgkg^{-1}$) in the soils were similar to the control soil value, whereas Cr (22.08 $mgkg^{-1}$), Pb (38.33 $mgkg^{-1}$) and Zn (85.25 $mgkg^{-1}$) were exceeded the control value. Both non-carcinogenic and carcinogenic were assessed using Hazard Index (HI) and Life Time Risk (LCR) respectively. All the value is categorized under acceptable value except exposure of Cr via dermal contact. In addition, Contamination factor (CF) calculation suggests there was very high Cr contamination. Further study should be done to evaluate other metal elements such as As and Cu, which may give bad effect if it's being exposed to human especially in high concentration.

TABLE OF CONTENTS

LIST OF TABLES