

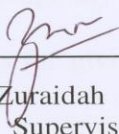
**DETERMINATION OF HEAVY METALS  
(Pb, Cd, Fe and Zn) IN CANNED SARDINES  
BY ACID DIGESTION METHOD**

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**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**

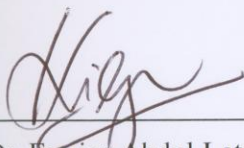
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This Final Year Project Report entitled “**Determination of Heavy Metals (Pb, Cd, Fe and Zn) in Canned Sardines by Acid Digestion Method**” was submitted by Azlan Shah Abdul Rahman, in partial fulfillment of the requirements for the Degree of Bachelor of Science (Hons.) Chemistry, in the Faculty of Applied Sciences, and was approved by



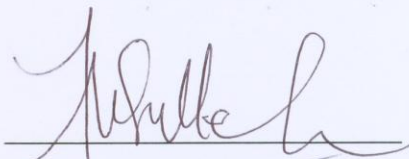
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## **ABSTRACT**

### **DETERMINATION OF HEAVY METALS (Pb, Cd, Fe and Zn) IN CANNED SARDINES BY ACID DIGESTION**

In this study, four heavy metals in local canned sardines were determined after acid digestion using concentrated nitric acid and concentrated hydrochloric acid. Iron, cadmium, zinc and lead in the samples were determined by atomic absorption spectroscopy. The metal contents, expressed in  $\text{mg kg}^{-1}$  wet weight, varied from 91.52 to 121.4 with average value 105.7 for iron, from 0.210 to 0.284 with average value 0.231 for cadmium, from 5.45 to 7.55 with average value 6.55 for zinc, from 4.008 to 4.636 with average value 4.131 for lead. For overall conclusion, heavy metals were present in all samples but the contents for zinc, cadmium and iron were lower except for lead content in canned sardine's samples when compared to the permitted level according to the Food Act 1983 and the Food Regulations 1996. Therefore all the samples analyzed in this study are not safe for consumption because the lead content was higher than the permitted level.