UNIVERSITI TEKNOLOGI MARA

DETERMINATION OF SULFITE IN DRIED FRUITS IN RELATION TO CONSUMER HEALTH RISK ASSESSMENT

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Draft project submitted in fulfillment of the requirements for the degree of
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DECLARATION BY STUDENT

Project entitled "Determination of Sulfite in Dried Fruits in Relation to Consumer Health Risk Assessment" is a presentation of my original research work. Whenever contributions of others are involved, every effort is made to indicate this clearly, with due reference to literature, and acknowledgement of collaborative research and discussions. The project was done under the guidance of Project Supervisor, Dr. Farah Ayuni Bt Shafie. It has been submitted to the Faculty of Health Sciences in partial fulfilment of the requirement for the Degree of Bachelor in Environmental Health and Safety (Hons).

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In the name of Allah, The Most Gracious, The Most Merciful.

Assalamualaikum and Alhamdulillah, all praises to Almighty Allah, on whom ultimately we depend for sustenance and guidance and the most compassionate His Holy Prophet Muhammad(Peace Be Upon Him) the most perfect an exalted one among and of ever born on the surface of earth, who is forever touch of guidance and knowledge for the humanity.

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ABSTRACT

Sulphur dioxide are belong to the group known as sulphiting agents that widely used in food products as a preservatives. These studies have majorly focused on the concentration of sulphites in dried fruits and the relation to consumer health risk assessment. Three types of dried fruits which are apricots, raisins and dates were chosen to be the samples in this study. The results indicated that the bulk dried fruits apricots, raisins and dates have higher concentration of sulphites compared to packaged dried fruits. The mean concentration for those three types of dried fruits sold in bulk were 1230.0 mg/kg, 1228.6 mg/kg and 1218.8 mg/kg, respectively. The reason of this difference may be the rate of sulphur dioxide (SO_2) loss depends on food product composition as well as storage temperature. Apricots with the highest sulphites concentration in bulk dried fruits also have the highest ratio of Hazard Index (HI) which is > 10. The estimated daily intake (EDI) for children also higher than adults, therefore, Hazard Index (HI) also higher in ratio. Children were the most vulnerable group compare to adult. Consumer who have allergies for sulphites should reduce the intake of dried fruits according to the guideline of dietary intake in food products. Thus, continuous monitoring and stricter regulation of sulfites using in food products should be enforced.

Keywords: *Food preservatives, Sulphur Dioxide, health risk assessment, bulk, packaged, dried fruits.*