

A PRELIMINARY STUDY ON UNDERSTANDING AND ATTITUDE TOWARDS CHEMICAL LABELING USING GLOBALLY HARMONISED SYSTEM (GHS) FOR SECONDARY LEVEL STUDENTS IN TERENGGANU



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Principles of
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Sekolah Menengah Sains Dungun
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5. Report

5.1 Proposed Executive Summary

Chemical substances can be handled safely if properties of the chemical substances being wholly understood and properly managed. Generally, some people assume that chemical substances are dangerous and the use of it has to be avoided totally, but some others just use it improperly without enough knowledge and training, students in schools, college or university being no exception. This attitude may cause fires and explosion, adverse health effects and/or damage to the environment. From our observation, students at tertiary level in college or university still cannot handle chemical substances correctly due to limitation of their knowledge and training. In Malaysia, campus chemical accidents were reported too, such as fire in laboratory at Department of Chemistry University Malaya (2001), engineering laboratory at Universiti Putra Malaysia (2002) and laboratory at School of Applied Physics, Universiti Kebangsaan Malaysia (2005). In Taiwan, it was reported that 49 % of campus accidents were related to improper use of chemicals in the last three years. Based on our literature, lack of hazard communication training for chemical substances is the cause for most of the chemical accidents. This means that knowledge about classification and labelling of chemicals is very important for students to have excellent knowledge in handling chemical substances. We found that the previous researchers just focus on understanding towards chemical labelling for tertiary level students in college only. As we know, in Malaysia students start to deal with chemical substances since primary level but they usually handle chemical substances themselves including hazardous substances at secondary level when doing laboratory activities. Therefore, understanding on classification and labelling of chemicals for secondary level students will be studied. GHS (Globally Harmonized System) is chosen because this system is expected to be adopted internationally, and will replace the relevant laws and regulations used in different countries with worldwide implementation started in 2008.

5.2 Enhanced Executive Summary

Chemical substances can be handled safely if properties of the chemical substances are wholly understood and the chemicals are properly managed. Improper use of the chemicals can cause accidents. Limitation of knowledge and training seem to be the factors for the chemical accidents. In Malaysia students are exposed to handling of chemical substances as early as at primary level but they usually handle chemical substances themselves including hazardous substances at secondary level when they are involved in laboratory activities. Therefore, understanding on classification and labeling of chemicals amongst secondary level students is crucial. Globally Harmonized System (GHS) is chosen in this study because this system is expected to be adopted internationally, and will replace the relevant laws and regulations used in different countries worldwide. Methodology for this study is descriptive quantitative survey. Cluster probability sampling was used for secondary levels students in Terengganu. Results found show that the students of secondary levels cannot recognize chemical substance correctly by using GHS. Attitude towards the importance of chemical labeling is also being discussed. Positive attitude are needed for good behavior while handling chemical substances. Results of this study show that a few factors such as schools and teachers affect the students understanding towards chemical substances labeling. Therefore, it is suggested that the hazard communication based on GHS should be incorporated into chemistry curriculum for secondary schools.

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