UNIVERSITI TEKNOLOGI MARA

INDOOR AIR QUALITY AND POTENTIAL OF SICK BUILDING SYNDROME (SBS) IN DOUBLE STOREY HOUSES

BADRUL HISYAM BIN MAMAT

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Declaration by students

Project entitled "Indoor air quality and potential of Sick Building Syndromes in the Double Storey Terrace Houses" is a presentation of my original research work. Wherever contribution of other are involved, every effort is made to indicate this clearly with due reference to the literature and acknowledgement of collaborative research and discussion. This project was done under the guidance of Miss Siti Rohana Binti Mohd Yatim as project supervisor and Mr. Nasaruddin Bin Abd Rahman as co-supervisor. It has been submitted to the Faculty of Health Sciences in partial fulfilment of the requirement for the Degree of Bachelor in Environment Health and Safety (Hons.)

Student Signature:

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Badrul Hisyam Bin Mamat

2007238344

831223115161

Date: 1-6-2011

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ABSTRACT

Indoor Air Quality and Potential of Sick Building Syndromes in The Double Storey Houses

Badrul Hisyam Bin Mamat

Nowadays indoor air quality has increasingly been attracting attention worldwide. In at most dwellings in developing countries, the level of indoor air pollution is very low because there are controls on the design, ventilation and construction of buildings. However, if ventilation of rooms is poor, or household appliances are faulty, pollution can build up to levels which may be detrimental to human health. Sick Building Syndrome is what that comes into concern as this health effect will occur if the occupants are exposed. The purpose of this study was to determine the major sources of indoor air quality either it being influenced by outdoor air and the potential risk of Sick Building Syndrome symptoms to the residential occupancies. Five (5) unit of double storey terrace house randomly selected from different locations in this study. The outdoor and indoor sample were measuring based on indoor gases such as carbon dioxide (CO^2), carbon monoxide, total volatile organic compounds(TVOCs) and climates factor such relative humidity, temperature and air velocity to compare the influence factor either from indoor or outdoor. The questionnaire also distributed among respondents. The result indicates from 24 hours measurements for 3 days shows the House 1 (Shah Alam) shows the greatest indoor/outdoor ratio for CO^2 and TVOCs. The correlation between indoor parameter such CO_2 and air velocity very significant on the day-2, r^2=0. 032 And the correlation between TVOC and CO shows was r^2=0. 686 on day-2 measurements. From ANOVA extract, shows symptom were significant between locations such stuffy nose, irritated eyes and a cough. Control measure should take from occupant such increasing the frequent available in ventilation system and use the household product with necessary to reduce the effect to occupant health.

Keyword: indoor air quality, sick building syndromes, indoor climates, indoor gases