

Study: Indoor air quality poses possible health threat

SICK BUILDING: New buildings, public buildings and air-conditioned buildings were found to have higher readings of formaldehyde, says study



INDOOR AIR THE SILENT KILL



(From L to R): Managing Director of Nippon Paint Malaysia Sdn Bhd, Mr Yaw Seng Heng with Secretary General of the Ministry of Energy, Green Technology and Water, Datuk Loo Took Gee; Deputy Director (Technical Services) of the **Department of Occupational Safety and Health** Selangor, Ir Haji Anuar Mohd Mokhtar and Head Researcher, Universiti Putra Malaysia, Lt. M Syazwan Aizat Ismail.

Building occupants in the Klang Valley reported a higher prevalence of illnesses such as fatigue, headaches and coughs compared to those in problematic buildings in Scandinavia. This shows that the reported cases of illnesses in the Klang Valley are at a critical level which could be affecting the health and productivity of building occupants, says a Nippon Paint study recently.

The Nippon Paint Indoor Air Quality Pilot Study is a collaborative effort between Nippon Paint (Malaysia) Sdn Bhd and University Putra Malaysia (UPM) aimed at determining the indoor formaldehyde exposure and Total Volatile Organic Compounds (TVOCs), and its impact on health among building occupants.

The research revealed that new buildings presented higher readings of formaldehyde compared to older buildings. Although the chemical readings were within the safe levels accepted by DOSH (Department of Occupational Safety and Health Malaysia), it raises the question that the quality of materials used in buildings today poses a potential threat to the health of its occupants.

The research data was collected based on physical (questionnaires) and chemical monitoring (scientific equipment) of indoor contaminants in a building. The study which included public and private buildings found that air-conditioned buildings and homes have higher levels of formaldehyde compared to those that were not.

Public buildings surveyed included malls, libraries, museums, clinics and government offices,

while private buildings covered homes and private offices. The study found that public buildings presented significantly higher levels of formaldehyde compared to private buildings.

Indoor air pollutants: Past researchers have categorised the side effects associated with the exposure to indoor air pollutants into three groups. First, Sick Building Syndrome refers to effects experienced by occupants without clinically diagnosed diseases found, while Building Related Illness refers to medically diagnosable diseases caused by building occupancy. The third category, Multiple Chemical Sensitivity refers to occupants who develop symptoms even with low levels of exposure.

Among the solutions discussed is the elimination of potential chemical sources followed by isolating the chemicals in a proper place away from heat. Discussions also suggested substituting materials which emit harmful chemicals with eco-friendly products.

Commenting on the study, Nippon Paint (M) Sdn Bhd Managing Director, Mr. Yaw Seng Heng said, "This pilot study is in line with our commitment to promote sustainability."

The study covered the major population areas in the Klang Valley over a duration of two months where a total of 1,163 indoor air samples were collected and over 400 building occupants interviewed. **By Khairul Khalid**