

VOCs emitted by indoor building materials

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Human health can be directly affected by the environmental conditions which a person is exposed to. Modern life has evolved in a way that we now spend the majority of their time indoors, with indoor air quality having a clear link with the wellbeing of modern humans. Indoor air quality is influenced by a multitude of factors such as volatile organic compounds (VOCs) and particulate matter (PMs), amongst others. A main source of VOCs in indoor spaces are construction material, furniture and other anthropogenic activities such as cooking, smoking etc. In an effort to reduce the emission of harmful VOCs and hence any adverse health effect on humans, authorities have imposed guidelines and restrictions on the use of certain chemicals in construction material. To correctly address and mitigate any harmful effects of emitted VOCs from building material, especially in new and/or renovated developments, an accurate and specific identification and quantification method is required. In this study, indoor air samples from a new office development were collected on a hydrophobic adsorbent material (Tenax TA) and analysed using thermal desorption-gas chromatography-mass spectrometry (TD-GC-MS). Samples collected from various areas of the development were analysed and the results indicate that the source of these VOCs is potentially components of the development's flooring. Further investigations will be performed to assess the effectiveness of various means of VOC clearance including natural ventilation, air purifiers and potted plants.