Efficiency of deodorant materials for ammonia reduction in indoor air

A comparative study about the removability of ammonia gas in the air by activated carbon fiber (ACF) felt chemically treated with acid and a cotton fabric processed with iron phthalocyanine with copper (Cu) was performed in small-scale experiments. The test rig consisted of a heated plate and its purpose was to simulate surface body temperature of 34 oC. The textiles were tested at two levels of relative humidity of 25% and 80% and two air temperatures of 20 oC and 28 oC. During the experiments, the airflow supplied to the test rig was controlled at a low constant flow rate of 0.46 L/s. Results proved activated carbon fiber felt with acid to be highly efficient in removing ammonia gas. Air temperature did not have profound effect on ACF performance. However, efficiency of the carbon fiber felt decreased when relative humidity was raised from 20 to 80%.