

S3.5,3 Test Methods for Performance Evaluation of Portable Air Cleaners

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High concentration of outdoor particulate matter and recent understanding of the adverse effects of air pollution on human health has prompted a steady expansion of products related to indoor air quality. Portable air cleaners may achieve an additional reduction in levels of certain air pollutants, especially when the control of sources of indoor pollution and ventilation do not result in acceptable indoor pollutant concentrations.

The CADR concept to evaluate performance of air cleaners in reducing particulate matter has been used for a few decades. The same CADR methodology is used to evaluate removal of gas-phase compounds; several test standards are based on this concept. Extension of the CADR methodology to gas-phase removal appears to be straightforward; however there are some test details that must be addressed.

This paper presents results of evaluation of portable air cleaners for removal particulate matter and gas-phase contaminants. Limitations of the test methods are analyzed and presented.