

# FILTRATION EFFICIENCY OF DUST RESPIRATOR AGAINST NANOPARTICLES

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We studied filter efficiency of dust respirator against nanoparticles. A polydisperse NaCl aerosol and a monodisperse PSL ( polystyrene latex ) aerosol were used for testing. The samples were a mechanical filter used for the replaceable type dust respirator and an electrostatic filter used for disposable type dust respirator. Two methods (scan mode and single-size mode) were applied to measure the efficiency for polydisperse NaCl aerosol, and the scan mode was applied for monodisperse PSL aerosol. Filter efficiencies for polydisperse NaCl aerosol evaluated by the two methods were almost the same at different particle sizes. The minimum filter efficiency of the mechanical filter and electrostatic filter was about 150nm and about 50nm respectively, for both the NaCl and PSL particles