

Influential parameters on particle concentration and size distribution in the mainstream of e-cigarettes

Journal Article ¹⁾

Electronic cigarette-generated mainstream aerosols were characterized in terms of particle number concentrations and size distributions through a Condensation Particle Counter and a Fast Mobility Particle Sizer spectrometer, respectively. A thermodilution system was also used to properly sample and dilute the mainstream aerosol.

Different types of electronic cigarettes, liquid flavors, liquid nicotine contents, as well as different puffing times were tested. Conventional tobacco cigarettes were also investigated.

The total particle number concentration peak (for 2-s puff), averaged across the different electronic cigarette types and liquids, was measured equal to $4.39 \pm 0.42 \times 10^9$ part. cm^{-3} , then comparable to the conventional cigarette one ($3.14 \pm 0.61 \times 10^9$ part. cm^{-3}). Puffing times and nicotine contents were found to influence the particle concentration, whereas no significant differences were recognized in terms of flavors and types of cigarettes used.

Particle number distribution modes of the electronic cigarette-generated aerosol were in the 120-165 nm range, then similar to the conventional cigarette one.

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[Cigarette, mainstream, aerosol, Conventional, tobacco, cigarettes, E-Cigarettes, Folder-Ref-AirQuality, Indoor, air, quality, Particle, concentration](#)

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