Electronic vapor products (commonly referred to as e-cigarettes, e-cigarettes) do not produce sidestream aerosol and the only source of aerosol constituents in the indoor environment is inhaled aerosol.

The goal of this exploratory study was to assess the impact of an Indoor Air Quality (IAQ) of a selection of rechargeable and refillable tobacco-flavored e-cigarettes in an environmental controlled room. The Indoor Air Chemistry (IAC) of e-cigarettes were compared to the IAQ of background air.

### Results & Discussion

**Nicotine**

Large differences between the consumed e-liquids during the sessions were measured – different vaping behaviors of panelists. Normalised values showed a factor up to 5 for e-liquid consumption influence on indoor air concentrations for the major e-liquid constituents.

- Statistical increase of nicotine above background levels when using e-cigarettes

**Acetophenone**

No statistical increase of formaldehyde above background levels when using e-cigarettes

### Conclusions

Nicotine, glycerin and propylene glycol levels were higher compared to background in environmental aerosol of all studied brands. Under the simulated ‘residential category II’ environmental condition, the measured median levels of nicotine, glycerin and propylene glycol in e-cigarette environmental aerosols were considerably lower than the five guidelines values that exist for these compounds (nicotine: 500 µg/m³; European Commission Directive 2006/15/EC; glycerin: 10 000 µg/m³; ACGIH, 2001; propylene glycol: 10 000 µg/m³; ACGIH, 2001).

In summary, under the simulated ‘residential category II’ environmental condition and with the measured indoor air quality parameters, no negative impact on the overall indoor air quality was observed when using e-cigarettes in an indoor environment.

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