1. **No.**

   FP01812222

2. **Title**

   Study of Measurement of Aerosol Compounds in the Mainstream Smoke of e-Cigarettes and heat-not-burn Cigarettes

3. **Period**

   2018-2019

4. **Summary**

   Heat-not-burn tobacco (HNB) and electronic cigarettes (E-cig) and have been popular recently. It is said that they are safer than conventional tobacco and do not produce sidestream smoke, but some specific pollutants have been found from mainstream smoke in some studies. It may occur involuntary exposure to smoke when e-cig and/or heat-not burn tobacco are smoked. In this study, we conducted a measurement study on indoor air pollution due to e-cig and heat-not-burn tobacco smoking. In addition, the difference between PM2.5 concentrations measured by the samplers with and without heater was examined in order to distinguish solid and vapor components of PM2.5 from HNB and E-cig and to find the appropriate temperature to collect solid and vapor-phase PM2.5 separately.

   PM2.5 and TVOC concentrations increased during smoking of HNB and E-cig. PM2.5 peak concentration for conventional tobacco was 2 times higher than heat-not-burn tobacco and 10 times higher than e-cig. PM2.5 concentration from HNB and E-cig were not observed at the heat treatment of 45 ℃ and 50 ℃. It should be considered that the vapor component of PM2.5 could be removed sufficiently.

   Indoor environment due to HNB and E-cig may be less polluted, but in order to check whether they are much safer for bystanders, more investigation is necessary. To characterize the measurement method of PM2.5 from HNB and e-cigs, it is necessary to measure PM2.5 from various HNB and E-cigs by the sampler with and without heater.