

## **Supplementary material 2 Calculation of conversion factor ( $\mu\text{g/wipe}$ to $\text{ng/cm}^2$ ) for wipe samples**

One study collected wipe samples as mass ( $\mu\text{g}$ ) from the face and neck [42]. For consistency, we converted that unit to  $\text{ng/m}^2$ . Specifically, the surface area of the human face may be assumed to be 1/3 that of the head [61]. The surface area of the head for an adult male over 21 is  $0.154 \text{ m}^2$  and for an adult female over 21 is  $0.121 \text{ m}^2$ . Thus, given an average head area of  $0.138 \text{ m}^2$ , we used an area of  $0.046 \text{ m}^2$  for the face to calculate the wipe sample in  $\mu\text{g/m}^2$ . Since the surface area of the neck is estimated as a trunk (a much broader area), we referred to another study [38], which estimated that the surface area of the human neck is  $0.006 \text{ m}^2$ . The summation of these two areas ( $0.046 \text{ m}^2 + 0.006 \text{ m}^2 = 0.052 \text{ m}^2$ ) was used to represent the skin. If the skin was wiped using a 47mm glass fiber filter (GFF), a conversion factor was implemented as follows: The wipe sample value ( $\text{ng/wipe}$ ) was divided by  $17.34\text{cm}^2$ , the surface area of the GFF ( $\pi r^2 = \pi \times [47\text{mm}/2]^2$ ), resulting in a unit of  $\text{ng/cm}^2$  for the meta-analysis. This approach is similar to that used to standardize dermal exposure levels of PAH [39] for the hands and neck.