

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

One study collected wipe samples as mass (μg) from the face and neck [42]. For consistency, we converted that unit to 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 m^2 and for an adult female over 21 is 0.121 m^2 . Thus, given an average head area of 0.138 m^2 , we used an area of 0.046 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 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 (ng/wipe) was divided by 17.34cm^2 , the surface area of the GFF ($\pi r^2 = \pi \times [47\text{mm}/2]^2$), resulting in a unit of 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.