**S1 Table. Calculation of the deposited particle dose in the human tracheobronchial (TB) tract at different ambient concentrations.**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Particle size, diameter [nm] | 250 |  |  |  |
| Tidal Volume, *V*T [m3] | 0.000625 |  |  |  |
| Breathing frequency, *f* [min-1] | 12 |  |  |  |
| Inhaled air volume/h (adult) [m3] | 0.45 |  |  |  |
| Inhaled air volume/24h (adult) [m3] | 10.8 |  |  |  |
| Surface area [cm2] | 2471 |  |  |  |
| Deposition efficiency  | 0.066 |  |
| PM dose applied [µg/cm2] |  | **Low**0.93 | **Average**7.70 | **High**18.80 |
| Mass conc. [µg/m3] | **20** |  |  |  |  |
| Mass/surface area [ng/cm2] / time | 6 / 1 d | 928 / 160 d | 7621 / 3.6 y | 18800 / 8.8 y |
|  |  |  |  |  |  |
| Mass conc. [µg/m3] | **100** |  |  |  |  |
| Mass/surface area [ng/cm2] / time | 29 / 1 d | 870 / 30 d | 7410 / 265 d | 18790 / 1.7 y |
|  |  |  |  |  |  |
| Mass conc. [µg/m3] | **500** |  |  |  |  |
| Mass/surface area [ng/cm2] / time | 144 / 1 d | 1008 / 7 d | 7410 / 65 d | 18720 / 130 d |
|  |  |  |  |  |  |
| Mass conc. [µg/m3] | **1000** |  |  |  |  |
| Mass/surface area [ng/cm2] / time | 288 / 1 d | 864 / 3 d | 7200 / 25 d | 18720 / 65 d |
| Deposition of particles in the tracheobronchial region upon inhalation using the Multiple Path Particle Dosimetry model (MPPD v 3.04) [37]. Abbreviations: d = days, y = years |