## Table 205: Muons in Naphtalene ($C_{10}H_8$)

| $\langle Z/A \rangle$ | $\rho$ [g/cm$^3$] | $I$ [eV] | $a$ | $k = m_s$ | $x_0$ | $x_1$ | $\overline{C}$ | $\delta_0$ |
|---|---|---|---|---|---|---|---|---|
| 0.53053 | 1.145 | 68.4 | 0.14766 | 3.2654 | 0.1374 | 2.5429 | 3.2274 | 0.00 |

| $T$ | $p$ [MeV/$c$] | Ionization | Brems | Pair prod | Photonucl | Total | CSDA range [g/cm$^2$] |
|---|---|---|---|---|---|---|---|
| | | [MeV cm$^2$/g] | | | | | |
| 10.0 MeV | $4.704 \times 10^1$ | 7.703 | | | | 7.703 | $7.168 \times 10^{-1}$ |
| 14.0 MeV | $5.616 \times 10^1$ | 6.006 | | | | 6.006 | $1.311 \times 10^0$ |
| 20.0 MeV | $6.802 \times 10^1$ | 4.689 | | | | 4.689 | $2.455 \times 10^0$ |
| 30.0 MeV | $8.509 \times 10^1$ | 3.636 | | | | 3.636 | $4.911 \times 10^0$ |
| 40.0 MeV | $1.003 \times 10^2$ | 3.104 | | | | 3.104 | $7.907 \times 10^0$ |
| 80.0 MeV | $1.527 \times 10^2$ | 2.326 | | | | 2.326 | $2.326 \times 10^1$ |
| 100. MeV | $1.764 \times 10^2$ | 2.178 | | | | 2.178 | $3.217 \times 10^1$ |
| 140. MeV | $2.218 \times 10^2$ | 2.028 | | | | 2.028 | $5.130 \times 10^1$ |
| 200. MeV | $2.868 \times 10^2$ | 1.941 | | | | 1.941 | $8.166 \times 10^1$ |
| 300. MeV | $3.917 \times 10^2$ | 1.907 | | | 0.000 | 1.907 | $1.338 \times 10^2$ |
| 318. MeV | $4.105 \times 10^2$ | 1.906 | | | 0.000 | 1.907 | *Minimum ionization* |
| 400. MeV | $4.945 \times 10^2$ | 1.912 | | | 0.000 | 1.913 | $1.862 \times 10^2$ |
| 800. MeV | $8.995 \times 10^2$ | 1.983 | 0.000 | | 0.000 | 1.984 | $3.916 \times 10^2$ |
| 1.00 GeV | $1.101 \times 10^3$ | 2.016 | 0.000 | | 0.000 | 2.016 | $4.916 \times 10^2$ |
| 1.40 GeV | $1.502 \times 10^3$ | 2.069 | 0.000 | | 0.001 | 2.070 | $6.873 \times 10^2$ |
| 2.00 GeV | $2.103 \times 10^3$ | 2.127 | 0.000 | 0.000 | 0.001 | 2.129 | $9.729 \times 10^2$ |
| 3.00 GeV | $3.104 \times 10^3$ | 2.193 | 0.001 | 0.001 | 0.001 | 2.196 | $1.435 \times 10^3$ |
| 4.00 GeV | $4.104 \times 10^3$ | 2.239 | 0.001 | 0.001 | 0.002 | 2.243 | $1.885 \times 10^3$ |
| 8.00 GeV | $8.105 \times 10^3$ | 2.345 | 0.003 | 0.003 | 0.004 | 2.354 | $3.620 \times 10^3$ |
| 10.0 GeV | $1.011 \times 10^4$ | 2.377 | 0.004 | 0.004 | 0.005 | 2.389 | $4.463 \times 10^3$ |
| 14.0 GeV | $1.411 \times 10^4$ | 2.423 | 0.006 | 0.006 | 0.007 | 2.442 | $6.118 \times 10^3$ |
| 20.0 GeV | $2.011 \times 10^4$ | 2.470 | 0.009 | 0.011 | 0.009 | 2.499 | $8.545 \times 10^3$ |
| 30.0 GeV | $3.011 \times 10^4$ | 2.521 | 0.015 | 0.018 | 0.014 | 2.568 | $1.249 \times 10^4$ |
| 40.0 GeV | $4.011 \times 10^4$ | 2.556 | 0.021 | 0.027 | 0.018 | 2.622 | $1.634 \times 10^4$ |
| 80.0 GeV | $8.011 \times 10^4$ | 2.636 | 0.049 | 0.066 | 0.034 | 2.785 | $3.112 \times 10^4$ |
| 100. GeV | $1.001 \times 10^5$ | 2.661 | 0.064 | 0.087 | 0.043 | 2.854 | $3.821 \times 10^4$ |
| 140. GeV | $1.401 \times 10^5$ | 2.698 | 0.094 | 0.130 | 0.059 | 2.982 | $5.191 \times 10^4$ |
| 200. GeV | $2.001 \times 10^5$ | 2.737 | 0.142 | 0.200 | 0.084 | 3.163 | $7.144 \times 10^4$ |
| 300. GeV | $3.001 \times 10^5$ | 2.781 | 0.224 | 0.318 | 0.126 | 3.449 | $1.017 \times 10^5$ |
| 400. GeV | $4.001 \times 10^5$ | 2.812 | 0.309 | 0.442 | 0.168 | 3.731 | $1.296 \times 10^5$ |
| 800. GeV | $8.001 \times 10^5$ | 2.888 | 0.665 | 0.956 | 0.340 | 4.849 | $2.233 \times 10^5$ |
| 1.00 TeV | $1.000 \times 10^6$ | 2.913 | 0.848 | 1.223 | 0.427 | 5.411 | $2.623 \times 10^5$ |
| 1.16 TeV | $1.161 \times 10^6$ | 2.929 | 0.996 | 1.435 | 0.498 | 5.859 | *Muon critical energy* |
| 1.40 TeV | $1.400 \times 10^6$ | 2.950 | 1.219 | 1.753 | 0.606 | 6.528 | $3.296 \times 10^5$ |
| 2.00 TeV | $2.000 \times 10^6$ | 2.991 | 1.789 | 2.567 | 0.877 | 8.223 | $4.113 \times 10^5$ |
| 3.00 TeV | $3.000 \times 10^6$ | 3.037 | 2.744 | 3.921 | 1.344 | 11.047 | $5.159 \times 10^5$ |
| 4.00 TeV | $4.000 \times 10^6$ | 3.071 | 3.717 | 5.295 | 1.819 | 13.902 | $5.964 \times 10^5$ |
| 8.00 TeV | $8.000 \times 10^6$ | 3.153 | 7.659 | 10.832 | 3.798 | 25.442 | $8.060 \times 10^5$ |
| 10.0 TeV | $1.000 \times 10^7$ | 3.180 | 9.653 | 13.621 | 4.818 | 31.272 | $8.768 \times 10^5$ |
| 14.0 TeV | $1.400 \times 10^7$ | 3.221 | 13.633 | 19.178 | 6.919 | 42.951 | $9.855 \times 10^5$ |
| 20.0 TeV | $2.000 \times 10^7$ | 3.266 | 19.655 | 27.561 | 10.149 | 60.631 | $1.102 \times 10^6$ |
| 30.0 TeV | $3.000 \times 10^7$ | 3.317 | 29.682 | 41.508 | 15.757 | 90.264 | $1.237 \times 10^6$ |
| 40.0 TeV | $4.000 \times 10^7$ | 3.354 | 39.766 | 55.501 | 21.513 | 120.135 | $1.333 \times 10^6$ |
| 80.0 TeV | $8.000 \times 10^7$ | 3.446 | 80.181 | 111.525 | 45.682 | 240.834 | $1.563 \times 10^6$ |
| 100. TeV | $1.000 \times 10^8$ | 3.476 | 100.436 | 139.571 | 58.215 | 301.698 | $1.637 \times 10^6$ |