

## Muons in polyvinylacetate [(CH<sub>2</sub>CHOCOCH<sub>3</sub>)<sub>n</sub>]

| $\langle Z/A \rangle$ | $\rho$ [g/cm <sup>3</sup> ] | $I$ [eV]   | $a$     | $k = m_s$                             | $x_0$     | $x_1$   | $\bar{C}$                          | $\delta_0$ |
|-----------------------|-----------------------------|------------|---------|---------------------------------------|-----------|---------|------------------------------------|------------|
| 0.53432               | 1.190                       | 73.7       | 0.11442 | 3.3762                                | 0.1769    | 2.6747  | 3.3309                             | 0.00       |
| $T$                   | $p$<br>[MeV/c]              | Ionization | Brems   | Pair prod<br>[MeV cm <sup>2</sup> /g] | Photonucl | Total   | CSDA range<br>[g/cm <sup>2</sup> ] |            |
| 10.0 MeV              | $4.704 \times 10^1$         | 7.684      |         |                                       |           | 7.684   | $7.191 \times 10^{-1}$             |            |
| 14.0 MeV              | $5.616 \times 10^1$         | 5.993      |         |                                       |           | 5.994   | $1.315 \times 10^0$                |            |
| 20.0 MeV              | $6.802 \times 10^1$         | 4.680      |         |                                       |           | 4.680   | $2.461 \times 10^0$                |            |
| 30.0 MeV              | $8.509 \times 10^1$         | 3.631      |         |                                       |           | 3.631   | $4.921 \times 10^0$                |            |
| 40.0 MeV              | $1.003 \times 10^2$         | 3.100      |         |                                       |           | 3.100   | $7.921 \times 10^0$                |            |
| 80.0 MeV              | $1.527 \times 10^2$         | 2.327      |         |                                       |           | 2.327   | $2.329 \times 10^1$                |            |
| 100. MeV              | $1.764 \times 10^2$         | 2.182      |         |                                       |           | 2.182   | $3.218 \times 10^1$                |            |
| 140. MeV              | $2.218 \times 10^2$         | 2.032      |         |                                       |           | 2.032   | $5.127 \times 10^1$                |            |
| 200. MeV              | $2.868 \times 10^2$         | 1.945      |         |                                       |           | 1.945   | $8.157 \times 10^1$                |            |
| 300. MeV              | $3.917 \times 10^2$         | 1.912      |         |                                       | 0.000     | 1.912   | $1.336 \times 10^2$                |            |
| 318. MeV              | $4.105 \times 10^2$         | 1.911      |         |                                       | 0.000     | 1.912   | <i>Minimum ionization</i>          |            |
| 400. MeV              | $4.945 \times 10^2$         | 1.918      |         |                                       | 0.000     | 1.918   | $1.858 \times 10^2$                |            |
| 800. MeV              | $8.995 \times 10^2$         | 1.990      | 0.000   |                                       | 0.000     | 1.990   | $3.906 \times 10^2$                |            |
| 1.00 GeV              | $1.101 \times 10^3$         | 2.023      | 0.000   |                                       | 0.000     | 2.023   | $4.903 \times 10^2$                |            |
| 1.40 GeV              | $1.502 \times 10^3$         | 2.076      | 0.000   |                                       | 0.001     | 2.077   | $6.853 \times 10^2$                |            |
| 2.00 GeV              | $2.103 \times 10^3$         | 2.135      | 0.001   | 0.000                                 | 0.001     | 2.137   | $9.698 \times 10^2$                |            |
| 3.00 GeV              | $3.104 \times 10^3$         | 2.203      | 0.001   | 0.001                                 | 0.001     | 2.206   | $1.430 \times 10^3$                |            |
| 4.00 GeV              | $4.104 \times 10^3$         | 2.249      | 0.001   | 0.001                                 | 0.002     | 2.254   | $1.878 \times 10^3$                |            |
| 8.00 GeV              | $8.105 \times 10^3$         | 2.357      | 0.003   | 0.003                                 | 0.004     | 2.367   | $3.605 \times 10^3$                |            |
| 10.0 GeV              | $1.011 \times 10^4$         | 2.389      | 0.004   | 0.004                                 | 0.005     | 2.403   | $4.443 \times 10^3$                |            |
| 14.0 GeV              | $1.411 \times 10^4$         | 2.436      | 0.007   | 0.007                                 | 0.007     | 2.457   | $6.089 \times 10^3$                |            |
| 20.0 GeV              | $2.011 \times 10^4$         | 2.484      | 0.010   | 0.012                                 | 0.009     | 2.515   | $8.501 \times 10^3$                |            |
| 30.0 GeV              | $3.011 \times 10^4$         | 2.535      | 0.017   | 0.020                                 | 0.014     | 2.586   | $1.242 \times 10^4$                |            |
| 40.0 GeV              | $4.011 \times 10^4$         | 2.570      | 0.024   | 0.030                                 | 0.018     | 2.642   | $1.624 \times 10^4$                |            |
| 80.0 GeV              | $8.011 \times 10^4$         | 2.651      | 0.054   | 0.073                                 | 0.034     | 2.812   | $3.089 \times 10^4$                |            |
| 100. GeV              | $1.001 \times 10^5$         | 2.676      | 0.070   | 0.096                                 | 0.043     | 2.885   | $3.791 \times 10^4$                |            |
| 140. GeV              | $1.401 \times 10^5$         | 2.714      | 0.104   | 0.144                                 | 0.059     | 3.020   | $5.146 \times 10^4$                |            |
| 200. GeV              | $2.001 \times 10^5$         | 2.753      | 0.156   | 0.221                                 | 0.084     | 3.213   | $7.071 \times 10^4$                |            |
| 300. GeV              | $3.001 \times 10^5$         | 2.797      | 0.246   | 0.351                                 | 0.126     | 3.520   | $1.004 \times 10^5$                |            |
| 400. GeV              | $4.001 \times 10^5$         | 2.829      | 0.340   | 0.486                                 | 0.167     | 3.822   | $1.277 \times 10^5$                |            |
| 800. GeV              | $8.001 \times 10^5$         | 2.905      | 0.730   | 1.051                                 | 0.338     | 5.025   | $2.187 \times 10^5$                |            |
| 1.00 TeV              | $1.000 \times 10^6$         | 2.930      | 0.932   | 1.344                                 | 0.425     | 5.631   | $2.562 \times 10^5$                |            |
| 1.08 TeV              | $1.083 \times 10^6$         | 2.939      | 1.015   | 1.462                                 | 0.461     | 5.878   | <i>Muon critical energy</i>        |            |
| 1.40 TeV              | $1.400 \times 10^6$         | 2.968      | 1.339   | 1.925                                 | 0.603     | 6.834   | $3.206 \times 10^5$                |            |
| 2.00 TeV              | $2.000 \times 10^6$         | 3.008      | 1.964   | 2.816                                 | 0.873     | 8.661   | $3.985 \times 10^5$                |            |
| 3.00 TeV              | $3.000 \times 10^6$         | 3.055      | 3.011   | 4.301                                 | 1.337     | 11.705  | $4.974 \times 10^5$                |            |
| 4.00 TeV              | $4.000 \times 10^6$         | 3.089      | 4.078   | 5.806                                 | 1.810     | 14.783  | $5.733 \times 10^5$                |            |
| 8.00 TeV              | $8.000 \times 10^6$         | 3.172      | 8.396   | 11.870                                | 3.778     | 27.216  | $7.697 \times 10^5$                |            |
| 10.0 TeV              | $1.000 \times 10^7$         | 3.199      | 10.580  | 14.924                                | 4.792     | 33.496  | $8.359 \times 10^5$                |            |
| 14.0 TeV              | $1.400 \times 10^7$         | 3.241      | 14.938  | 21.010                                | 6.882     | 46.072  | $9.373 \times 10^5$                |            |
| 20.0 TeV              | $2.000 \times 10^7$         | 3.285      | 21.533  | 30.190                                | 10.093    | 65.101  | $1.046 \times 10^6$                |            |
| 30.0 TeV              | $3.000 \times 10^7$         | 3.337      | 32.513  | 45.464                                | 15.667    | 96.981  | $1.171 \times 10^6$                |            |
| 40.0 TeV              | $4.000 \times 10^7$         | 3.375      | 43.554  | 60.787                                | 21.388    | 129.104 | $1.260 \times 10^6$                |            |
| 80.0 TeV              | $8.000 \times 10^7$         | 3.467      | 87.817  | 122.134                               | 45.404    | 258.822 | $1.475 \times 10^6$                |            |
| 100. TeV              | $1.000 \times 10^8$         | 3.497      | 110.006 | 152.844                               | 57.854    | 324.202 | $1.544 \times 10^6$                |            |