

## Muons in mendelevium (Md)

| Z        | A [g/mol]           | $\rho$ [g/cm <sup>3</sup> ] | I [eV]  | a                                     | $k = m_s$ | $x_0$    | $x_1$                              | $\bar{C}$ | $\delta_0$ |
|----------|---------------------|-----------------------------|---------|---------------------------------------|-----------|----------|------------------------------------|-----------|------------|
| 101 (Md) | [258.09843 (3)]     | ??                          | 1007.0  | 0.26360                               | 3.0000    | 0.5886   | 3.0000                             | 6.4068    | 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 | $4.704 \times 10^1$ | 3.594                       |         |                                       |           | 3.595    | $1.641 \times 10^0$                |           |            |
| 14.0 MeV | $5.616 \times 10^1$ | 2.889                       |         |                                       |           | 2.889    | $2.893 \times 10^0$                |           |            |
| 20.0 MeV | $6.802 \times 10^1$ | 2.316                       |         |                                       |           | 2.316    | $5.236 \times 10^0$                |           |            |
| 30.0 MeV | $8.509 \times 10^1$ | 1.841                       |         |                                       |           | 1.841    | $1.014 \times 10^1$                |           |            |
| 40.0 MeV | $1.003 \times 10^2$ | 1.596                       |         |                                       |           | 1.596    | $1.601 \times 10^1$                |           |            |
| 80.0 MeV | $1.527 \times 10^2$ | 1.236                       |         |                                       |           | 1.236    | $4.532 \times 10^1$                |           |            |
| 100. MeV | $1.764 \times 10^2$ | 1.174                       |         |                                       |           | 1.174    | $6.196 \times 10^1$                |           |            |
| 140. MeV | $2.218 \times 10^2$ | 1.116                       |         |                                       |           | 1.117    | $9.705 \times 10^1$                |           |            |
| 200. MeV | $2.868 \times 10^2$ | 1.095                       |         |                                       |           | 1.095    | $1.515 \times 10^2$                |           |            |
| 213. MeV | $3.008 \times 10^2$ | 1.095                       | 0.000   |                                       |           | 1.095    | <i>Minimum ionization</i>          |           |            |
| 300. MeV | $3.917 \times 10^2$ | 1.108                       | 0.000   |                                       | 0.000     | 1.108    | $2.424 \times 10^2$                |           |            |
| 400. MeV | $4.945 \times 10^2$ | 1.135                       | 0.000   |                                       | 0.000     | 1.135    | $3.316 \times 10^2$                |           |            |
| 800. MeV | $8.995 \times 10^2$ | 1.229                       | 0.001   |                                       | 0.000     | 1.231    | $6.690 \times 10^2$                |           |            |
| 1.00 GeV | $1.101 \times 10^3$ | 1.264                       | 0.002   |                                       | 0.000     | 1.267    | $8.291 \times 10^2$                |           |            |
| 1.40 GeV | $1.502 \times 10^3$ | 1.319                       | 0.003   |                                       | 0.000     | 1.322    | $1.138 \times 10^3$                |           |            |
| 2.00 GeV | $2.103 \times 10^3$ | 1.376                       | 0.005   | 0.001                                 | 0.001     | 1.383    | $1.581 \times 10^3$                |           |            |
| 3.00 GeV | $3.104 \times 10^3$ | 1.440                       | 0.008   | 0.003                                 | 0.001     | 1.453    | $2.285 \times 10^3$                |           |            |
| 4.00 GeV | $4.104 \times 10^3$ | 1.483                       | 0.012   | 0.006                                 | 0.001     | 1.503    | $2.962 \times 10^3$                |           |            |
| 8.00 GeV | $8.105 \times 10^3$ | 1.578                       | 0.030   | 0.024                                 | 0.003     | 1.635    | $5.503 \times 10^3$                |           |            |
| 10.0 GeV | $1.011 \times 10^4$ | 1.605                       | 0.040   | 0.034                                 | 0.004     | 1.684    | $6.708 \times 10^3$                |           |            |
| 14.0 GeV | $1.411 \times 10^4$ | 1.645                       | 0.061   | 0.057                                 | 0.005     | 1.769    | $9.024 \times 10^3$                |           |            |
| 20.0 GeV | $2.011 \times 10^4$ | 1.684                       | 0.095   | 0.094                                 | 0.007     | 1.881    | $1.231 \times 10^4$                |           |            |
| 30.0 GeV | $3.011 \times 10^4$ | 1.725                       | 0.155   | 0.167                                 | 0.011     | 2.059    | $1.739 \times 10^4$                |           |            |
| 40.0 GeV | $4.011 \times 10^4$ | 1.752                       | 0.219   | 0.248                                 | 0.014     | 2.234    | $2.205 \times 10^4$                |           |            |
| 80.0 GeV | $8.011 \times 10^4$ | 1.812                       | 0.495   | 0.605                                 | 0.027     | 2.941    | $3.761 \times 10^4$                |           |            |
| 100. GeV | $1.001 \times 10^5$ | 1.831                       | 0.642   | 0.798                                 | 0.034     | 3.306    | $4.403 \times 10^4$                |           |            |
| 121. GeV | $1.213 \times 10^5$ | 1.846                       | 0.799   | 1.006                                 | 0.041     | 3.694    | <i>Muon critical energy</i>        |           |            |
| 140. GeV | $1.401 \times 10^5$ | 1.858                       | 0.942   | 1.196                                 | 0.047     | 4.044    | $5.495 \times 10^4$                |           |            |
| 200. GeV | $2.001 \times 10^5$ | 1.887                       | 1.411   | 1.826                                 | 0.067     | 5.193    | $6.802 \times 10^4$                |           |            |
| 300. GeV | $3.001 \times 10^5$ | 1.919                       | 2.212   | 2.879                                 | 0.100     | 7.112    | $8.442 \times 10^4$                |           |            |
| 400. GeV | $4.001 \times 10^5$ | 1.942                       | 3.039   | 3.970                                 | 0.134     | 9.086    | $9.684 \times 10^4$                |           |            |
| 800. GeV | $8.001 \times 10^5$ | 1.998                       | 6.449   | 8.442                                 | 0.270     | 17.161   | $1.284 \times 10^5$                |           |            |
| 1.00 TeV | $1.000 \times 10^6$ | 2.016                       | 8.198   | 10.730                                | 0.340     | 21.286   | $1.388 \times 10^5$                |           |            |
| 1.40 TeV | $1.400 \times 10^6$ | 2.044                       | 11.702  | 15.291                                | 0.481     | 29.520   | $1.547 \times 10^5$                |           |            |
| 2.00 TeV | $2.000 \times 10^6$ | 2.074                       | 17.057  | 22.252                                | 0.695     | 42.080   | $1.716 \times 10^5$                |           |            |
| 3.00 TeV | $3.000 \times 10^6$ | 2.108                       | 25.989  | 33.817                                | 1.062     | 62.978   | $1.910 \times 10^5$                |           |            |
| 4.00 TeV | $4.000 \times 10^6$ | 2.133                       | 35.034  | 45.504                                | 1.435     | 84.107   | $2.046 \times 10^5$                |           |            |
| 8.00 TeV | $8.000 \times 10^6$ | 2.194                       | 71.471  | 92.473                                | 2.978     | 169.118  | $2.375 \times 10^5$                |           |            |
| 10.0 TeV | $1.000 \times 10^7$ | 2.213                       | 89.820  | 116.080                               | 3.770     | 211.886  | $2.481 \times 10^5$                |           |            |
| 14.0 TeV | $1.400 \times 10^7$ | 2.244                       | 126.417 | 163.186                               | 5.394     | 297.243  | $2.639 \times 10^5$                |           |            |
| 20.0 TeV | $2.000 \times 10^7$ | 2.277                       | 181.610 | 234.142                               | 7.880     | 425.911  | $2.807 \times 10^5$                |           |            |
| 30.0 TeV | $3.000 \times 10^7$ | 2.315                       | 273.582 | 352.181                               | 12.174    | 640.254  | $2.997 \times 10^5$                |           |            |
| 40.0 TeV | $4.000 \times 10^7$ | 2.342                       | 365.880 | 470.490                               | 16.568    | 855.282  | $3.132 \times 10^5$                |           |            |
| 80.0 TeV | $8.000 \times 10^7$ | 2.410                       | 735.040 | 944.060                               | 34.893    | 1716.404 | $3.455 \times 10^5$                |           |            |
| 100. TeV | $1.000 \times 10^8$ | 2.432                       | 919.730 | 1181.060                              | 44.350    | 2147.574 | $3.559 \times 10^5$                |           |            |