

**Table 268: Muons in Triethyl phosphate  $C_6H_{15}PO_4$**

| $\langle Z/A \rangle$ | $\rho$ [g/cm <sup>3</sup> ] | $I$ [eV]   | $a$     | $k = m_s$                             | $x_0$     | $x_1$   | $\bar{C}$                          | $\delta_0$ |
|-----------------------|-----------------------------|------------|---------|---------------------------------------|-----------|---------|------------------------------------|------------|
| 0.53800               | 1.070                       | 81.2       | 0.06922 | 3.6302                                | 0.2054    | 2.9428  | 3.6242                             | 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              | $4.704 \times 10^1$         | 7.640      |         |                                       |           | 7.640   | $7.239 \times 10^{-1}$             |            |
| 14.0 MeV              | $5.616 \times 10^1$         | 5.962      |         |                                       |           | 5.962   | $1.323 \times 10^0$                |            |
| 20.0 MeV              | $6.802 \times 10^1$         | 4.658      |         |                                       |           | 4.658   | $2.474 \times 10^0$                |            |
| 30.0 MeV              | $8.509 \times 10^1$         | 3.615      |         |                                       |           | 3.615   | $4.946 \times 10^0$                |            |
| 40.0 MeV              | $1.003 \times 10^2$         | 3.088      |         |                                       |           | 3.088   | $7.958 \times 10^0$                |            |
| 80.0 MeV              | $1.527 \times 10^2$         | 2.319      |         |                                       |           | 2.320   | $2.338 \times 10^1$                |            |
| 100. MeV              | $1.764 \times 10^2$         | 2.180      |         |                                       |           | 2.180   | $3.229 \times 10^1$                |            |
| 140. MeV              | $2.218 \times 10^2$         | 2.032      |         |                                       |           | 2.033   | $5.139 \times 10^1$                |            |
| 200. MeV              | $2.868 \times 10^2$         | 1.948      |         |                                       |           | 1.949   | $8.165 \times 10^1$                |            |
| 300. MeV              | $3.917 \times 10^2$         | 1.918      |         |                                       | 0.000     | 1.918   | $1.335 \times 10^2$                |            |
| 314. MeV              | $4.065 \times 10^2$         | 1.917      |         |                                       | 0.000     | 1.918   | <i>Minimum ionization</i>          |            |
| 400. MeV              | $4.945 \times 10^2$         | 1.925      |         |                                       | 0.000     | 1.925   | $1.856 \times 10^2$                |            |
| 800. MeV              | $8.995 \times 10^2$         | 2.001      | 0.000   |                                       | 0.000     | 2.002   | $3.894 \times 10^2$                |            |
| 1.00 GeV              | $1.101 \times 10^3$         | 2.035      | 0.000   |                                       | 0.000     | 2.036   | $4.885 \times 10^2$                |            |
| 1.40 GeV              | $1.502 \times 10^3$         | 2.090      | 0.000   | 0.000                                 | 0.001     | 2.092   | $6.822 \times 10^2$                |            |
| 2.00 GeV              | $2.103 \times 10^3$         | 2.151      | 0.001   | 0.000                                 | 0.001     | 2.153   | $9.647 \times 10^2$                |            |
| 3.00 GeV              | $3.104 \times 10^3$         | 2.220      | 0.001   | 0.001                                 | 0.001     | 2.224   | $1.421 \times 10^3$                |            |
| 4.00 GeV              | $4.104 \times 10^3$         | 2.268      | 0.002   | 0.001                                 | 0.002     | 2.273   | $1.866 \times 10^3$                |            |
| 8.00 GeV              | $8.105 \times 10^3$         | 2.378      | 0.004   | 0.004                                 | 0.004     | 2.390   | $3.576 \times 10^3$                |            |
| 10.0 GeV              | $1.011 \times 10^4$         | 2.412      | 0.005   | 0.005                                 | 0.005     | 2.427   | $4.407 \times 10^3$                |            |
| 14.0 GeV              | $1.411 \times 10^4$         | 2.460      | 0.008   | 0.008                                 | 0.007     | 2.482   | $6.035 \times 10^3$                |            |
| 20.0 GeV              | $2.011 \times 10^4$         | 2.508      | 0.012   | 0.014                                 | 0.009     | 2.543   | $8.422 \times 10^3$                |            |
| 30.0 GeV              | $3.011 \times 10^4$         | 2.561      | 0.020   | 0.024                                 | 0.013     | 2.618   | $1.229 \times 10^4$                |            |
| 40.0 GeV              | $4.011 \times 10^4$         | 2.596      | 0.028   | 0.035                                 | 0.018     | 2.677   | $1.607 \times 10^4$                |            |
| 80.0 GeV              | $8.011 \times 10^4$         | 2.677      | 0.063   | 0.085                                 | 0.034     | 2.860   | $3.050 \times 10^4$                |            |
| 100. GeV              | $1.001 \times 10^5$         | 2.703      | 0.082   | 0.113                                 | 0.042     | 2.940   | $3.740 \times 10^4$                |            |
| 140. GeV              | $1.401 \times 10^5$         | 2.740      | 0.121   | 0.169                                 | 0.059     | 3.089   | $5.066 \times 10^4$                |            |
| 200. GeV              | $2.001 \times 10^5$         | 2.780      | 0.182   | 0.258                                 | 0.083     | 3.304   | $6.944 \times 10^4$                |            |
| 300. GeV              | $3.001 \times 10^5$         | 2.825      | 0.288   | 0.410                                 | 0.125     | 3.647   | $9.823 \times 10^4$                |            |
| 400. GeV              | $4.001 \times 10^5$         | 2.856      | 0.397   | 0.568                                 | 0.166     | 3.988   | $1.244 \times 10^5$                |            |
| 800. GeV              | $8.001 \times 10^5$         | 2.933      | 0.851   | 1.226                                 | 0.336     | 5.346   | $2.108 \times 10^5$                |            |
| 964. GeV              | $9.645 \times 10^5$         | 2.954      | 1.044   | 1.504                                 | 0.406     | 5.909   | <i>Muon critical energy</i>        |            |
| 1.00 TeV              | $1.000 \times 10^6$         | 2.958      | 1.086   | 1.565                                 | 0.422     | 6.031   | $2.460 \times 10^5$                |            |
| 1.40 TeV              | $1.400 \times 10^6$         | 2.996      | 1.558   | 2.240                                 | 0.598     | 7.394   | $3.058 \times 10^5$                |            |
| 2.00 TeV              | $2.000 \times 10^6$         | 3.037      | 2.284   | 3.275                                 | 0.866     | 9.463   | $3.773 \times 10^5$                |            |
| 3.00 TeV              | $3.000 \times 10^6$         | 3.084      | 3.500   | 4.998                                 | 1.327     | 12.910  | $4.675 \times 10^5$                |            |
| 4.00 TeV              | $4.000 \times 10^6$         | 3.118      | 4.737   | 6.744                                 | 1.796     | 16.396  | $5.361 \times 10^5$                |            |
| 8.00 TeV              | $8.000 \times 10^6$         | 3.202      | 9.744   | 13.775                                | 3.748     | 30.469  | $7.123 \times 10^5$                |            |
| 10.0 TeV              | $1.000 \times 10^7$         | 3.229      | 12.275  | 17.316                                | 4.754     | 37.574  | $7.713 \times 10^5$                |            |
| 14.0 TeV              | $1.400 \times 10^7$         | 3.271      | 17.328  | 24.371                                | 6.825     | 51.796  | $8.616 \times 10^5$                |            |
| 20.0 TeV              | $2.000 \times 10^7$         | 3.316      | 24.970  | 35.012                                | 10.008    | 73.306  | $9.585 \times 10^5$                |            |
| 30.0 TeV              | $3.000 \times 10^7$         | 3.368      | 37.690  | 52.718                                | 15.532    | 109.308 | $1.069 \times 10^6$                |            |
| 40.0 TeV              | $4.000 \times 10^7$         | 3.406      | 50.476  | 70.479                                | 21.201    | 145.563 | $1.149 \times 10^6$                |            |
| 80.0 TeV              | $8.000 \times 10^7$         | 3.499      | 101.746 | 141.586                               | 44.990    | 291.820 | $1.339 \times 10^6$                |            |
| 100. TeV              | $1.000 \times 10^8$         | 3.529      | 127.448 | 177.180                               | 57.320    | 365.478 | $1.400 \times 10^6$                |            |