

**Muons in cellulose acetate butyrate [(C<sub>15</sub>H<sub>22</sub>O<sub>8</sub>)<sub>n</sub>]**

$\langle Z/A \rangle$	$\rho$ [g/cm <sup>3</sup> ]	$I$ [eV]	$a$	$k = m_s$	$x_0$	$x_1$	$\bar{C}$	$\delta_0$
0.53279	1.200	74.6	0.11444	3.3738	0.1794	2.6809	3.3497	0.00
$T$	$p$ [MeV/c]	Ionization	Brems	Pair prod [MeV cm <sup>2</sup> /g]	Photonucl	Total	CSDA range [g/cm <sup>2</sup> ]	
10.0 MeV	$4.704 \times 10^1$	7.650				7.650	$7.224 \times 10^{-1}$	
14.0 MeV	$5.616 \times 10^1$	5.967				5.967	$1.321 \times 10^0$	
20.0 MeV	$6.802 \times 10^1$	4.660				4.660	$2.472 \times 10^0$	
30.0 MeV	$8.509 \times 10^1$	3.615				3.615	$4.942 \times 10^0$	
40.0 MeV	$1.003 \times 10^2$	3.087				3.087	$7.955 \times 10^0$	
80.0 MeV	$1.527 \times 10^2$	2.318				2.318	$2.339 \times 10^1$	
100. MeV	$1.764 \times 10^2$	2.174				2.174	$3.232 \times 10^1$	
140. MeV	$2.218 \times 10^2$	2.024				2.024	$5.148 \times 10^1$	
200. MeV	$2.868 \times 10^2$	1.938				1.938	$8.189 \times 10^1$	
300. MeV	$3.917 \times 10^2$	1.905			0.000	1.905	$1.341 \times 10^2$	
318. MeV	$4.105 \times 10^2$	1.904			0.000	1.905	<i>Minimum ionization</i>	
400. MeV	$4.945 \times 10^2$	1.911			0.000	1.911	$1.865 \times 10^2$	
800. MeV	$8.995 \times 10^2$	1.983	0.000		0.000	1.983	$3.921 \times 10^2$	
1.00 GeV	$1.101 \times 10^3$	2.016	0.000		0.000	2.017	$4.920 \times 10^2$	
1.40 GeV	$1.502 \times 10^3$	2.069	0.000		0.001	2.071	$6.877 \times 10^2$	
2.00 GeV	$2.103 \times 10^3$	2.128	0.001	0.000	0.001	2.130	$9.731 \times 10^2$	
3.00 GeV	$3.104 \times 10^3$	2.196	0.001	0.001	0.001	2.199	$1.435 \times 10^3$	
4.00 GeV	$4.104 \times 10^3$	2.242	0.001	0.001	0.002	2.247	$1.884 \times 10^3$	
8.00 GeV	$8.105 \times 10^3$	2.349	0.003	0.003	0.004	2.360	$3.616 \times 10^3$	
10.0 GeV	$1.011 \times 10^4$	2.382	0.004	0.004	0.005	2.395	$4.457 \times 10^3$	
14.0 GeV	$1.411 \times 10^4$	2.429	0.007	0.007	0.007	2.449	$6.108 \times 10^3$	
20.0 GeV	$2.011 \times 10^4$	2.476	0.010	0.012	0.009	2.508	$8.527 \times 10^3$	
30.0 GeV	$3.011 \times 10^4$	2.528	0.017	0.020	0.014	2.579	$1.246 \times 10^4$	
40.0 GeV	$4.011 \times 10^4$	2.563	0.024	0.030	0.018	2.634	$1.629 \times 10^4$	
80.0 GeV	$8.011 \times 10^4$	2.643	0.054	0.073	0.034	2.805	$3.098 \times 10^4$	
100. GeV	$1.001 \times 10^5$	2.668	0.071	0.096	0.042	2.878	$3.802 \times 10^4$	
140. GeV	$1.401 \times 10^5$	2.705	0.104	0.145	0.059	3.013	$5.160 \times 10^4$	
200. GeV	$2.001 \times 10^5$	2.744	0.157	0.222	0.084	3.207	$7.089 \times 10^4$	
300. GeV	$3.001 \times 10^5$	2.789	0.248	0.352	0.126	3.514	$1.007 \times 10^5$	
400. GeV	$4.001 \times 10^5$	2.820	0.342	0.489	0.167	3.818	$1.280 \times 10^5$	
800. GeV	$8.001 \times 10^5$	2.896	0.734	1.057	0.338	5.025	$2.190 \times 10^5$	
1.00 TeV	$1.000 \times 10^6$	2.921	0.937	1.350	0.425	5.633	$2.566 \times 10^5$	
1.07 TeV	$1.075 \times 10^6$	2.929	1.013	1.459	0.458	5.859	<i>Muon critical energy</i>	
1.40 TeV	$1.400 \times 10^6$	2.959	1.346	1.935	0.602	6.841	$3.209 \times 10^5$	
2.00 TeV	$2.000 \times 10^6$	2.999	1.973	2.831	0.872	8.676	$3.986 \times 10^5$	
3.00 TeV	$3.000 \times 10^6$	3.046	3.026	4.322	1.337	11.731	$4.974 \times 10^5$	
4.00 TeV	$4.000 \times 10^6$	3.080	4.097	5.835	1.809	14.821	$5.731 \times 10^5$	
8.00 TeV	$8.000 \times 10^6$	3.162	8.436	11.928	3.776	27.302	$7.690 \times 10^5$	
10.0 TeV	$1.000 \times 10^7$	3.189	10.630	14.997	4.790	33.607	$8.349 \times 10^5$	
14.0 TeV	$1.400 \times 10^7$	3.231	15.009	21.113	6.878	46.231	$9.359 \times 10^5$	
20.0 TeV	$2.000 \times 10^7$	3.276	21.634	30.337	10.086	65.334	$1.045 \times 10^6$	
30.0 TeV	$3.000 \times 10^7$	3.327	32.666	45.685	15.657	97.334	$1.169 \times 10^6$	
40.0 TeV	$4.000 \times 10^7$	3.364	43.757	61.082	21.374	129.578	$1.258 \times 10^6$	
80.0 TeV	$8.000 \times 10^7$	3.456	88.226	122.726	45.372	259.780	$1.472 \times 10^6$	
100. TeV	$1.000 \times 10^8$	3.487	110.517	153.585	57.813	325.402	$1.540 \times 10^6$	