

## Muons in n-butyl alcohol (C<sub>4</sub>H<sub>9</sub>OH)

	$\langle Z/A \rangle$	$\rho$ [g/cm <sup>3</sup> ]	$I$ [eV]	$a$	$k = m_s$	$x_0$	$x_1$	$\bar{C}$	$\delta_0$
	0.56663	0.810	59.9	0.10081	3.5139	0.1937	2.6439	3.2425	0.00
$T$	$p$ [MeV/c]	Ionization	Brems	Pair prod	Photonucl	Total	CSDA range [g/cm <sup>2</sup> ]		
				[MeV cm <sup>2</sup> /g]					
10.0 MeV	$4.704 \times 10^1$	8.367				8.367		$6.592 \times 10^{-1}$	
14.0 MeV	$5.616 \times 10^1$	6.520				6.520		$1.207 \times 10^0$	
20.0 MeV	$6.802 \times 10^1$	5.086				5.087		$2.261 \times 10^0$	
30.0 MeV	$8.509 \times 10^1$	3.942				3.942		$4.525 \times 10^0$	
40.0 MeV	$1.003 \times 10^2$	3.364				3.364		$7.289 \times 10^0$	
80.0 MeV	$1.527 \times 10^2$	2.521				2.521		$2.147 \times 10^1$	
100. MeV	$1.764 \times 10^2$	2.366				2.366		$2.967 \times 10^1$	
140. MeV	$2.218 \times 10^2$	2.201				2.201		$4.728 \times 10^1$	
200. MeV	$2.868 \times 10^2$	2.106				2.106		$7.526 \times 10^1$	
300. MeV	$3.917 \times 10^2$	2.068			0.000	2.068		$1.233 \times 10^2$	
324. MeV	$4.161 \times 10^2$	2.067			0.000	2.067			<i>Minimum ionization</i>
400. MeV	$4.945 \times 10^2$	2.072			0.000	2.073		$1.717 \times 10^2$	
800. MeV	$8.995 \times 10^2$	2.146	0.000		0.000	2.146		$3.614 \times 10^2$	
1.00 GeV	$1.101 \times 10^3$	2.180	0.000		0.000	2.181		$4.538 \times 10^2$	
1.40 GeV	$1.502 \times 10^3$	2.236	0.000		0.001	2.237		$6.348 \times 10^2$	
2.00 GeV	$2.103 \times 10^3$	2.297	0.000	0.000	0.001	2.299		$8.992 \times 10^2$	
3.00 GeV	$3.104 \times 10^3$	2.368	0.001	0.001	0.001	2.371		$1.327 \times 10^3$	
4.00 GeV	$4.104 \times 10^3$	2.416	0.001	0.001	0.002	2.421		$1.744 \times 10^3$	
8.00 GeV	$8.105 \times 10^3$	2.529	0.003	0.003	0.004	2.538		$3.353 \times 10^3$	
10.0 GeV	$1.011 \times 10^4$	2.563	0.004	0.004	0.005	2.576		$4.135 \times 10^3$	
14.0 GeV	$1.411 \times 10^4$	2.612	0.006	0.007	0.007	2.632		$5.671 \times 10^3$	
20.0 GeV	$2.011 \times 10^4$	2.663	0.009	0.011	0.009	2.692		$7.923 \times 10^3$	
30.0 GeV	$3.011 \times 10^4$	2.717	0.016	0.019	0.014	2.765		$1.159 \times 10^4$	
40.0 GeV	$4.011 \times 10^4$	2.754	0.022	0.028	0.018	2.822		$1.516 \times 10^4$	
80.0 GeV	$8.011 \times 10^4$	2.840	0.050	0.068	0.035	2.993		$2.890 \times 10^4$	
100. GeV	$1.001 \times 10^5$	2.866	0.065	0.089	0.043	3.064		$3.551 \times 10^4$	
140. GeV	$1.401 \times 10^5$	2.906	0.097	0.134	0.060	3.197		$4.828 \times 10^4$	
200. GeV	$2.001 \times 10^5$	2.948	0.146	0.206	0.085	3.384		$6.652 \times 10^4$	
300. GeV	$3.001 \times 10^5$	2.995	0.230	0.328	0.127	3.680		$9.484 \times 10^4$	
400. GeV	$4.001 \times 10^5$	3.028	0.318	0.455	0.169	3.970		$1.210 \times 10^5$	
800. GeV	$8.001 \times 10^5$	3.109	0.685	0.985	0.341	5.120		$2.095 \times 10^5$	
1.00 TeV	$1.000 \times 10^6$	3.135	0.875	1.259	0.429	5.698		$2.465 \times 10^5$	
1.22 TeV	$1.216 \times 10^6$	3.159	1.080	1.553	0.525	6.318			<i>Muon critical energy</i>
1.40 TeV	$1.400 \times 10^6$	3.176	1.257	1.805	0.608	6.846		$3.104 \times 10^5$	
2.00 TeV	$2.000 \times 10^6$	3.219	1.845	2.643	0.881	8.588		$3.885 \times 10^5$	
3.00 TeV	$3.000 \times 10^6$	3.268	2.832	4.037	1.350	11.488		$4.889 \times 10^5$	
4.00 TeV	$4.000 \times 10^6$	3.304	3.837	5.453	1.827	14.420		$5.664 \times 10^5$	
8.00 TeV	$8.000 \times 10^6$	3.392	7.909	11.154	3.815	26.270		$7.690 \times 10^5$	
10.0 TeV	$1.000 \times 10^7$	3.421	9.970	14.027	4.839	32.257		$8.376 \times 10^5$	
14.0 TeV	$1.400 \times 10^7$	3.465	14.084	19.749	6.951	44.249		$9.430 \times 10^5$	
20.0 TeV	$2.000 \times 10^7$	3.512	20.311	28.382	10.196	62.402		$1.057 \times 10^6$	
30.0 TeV	$3.000 \times 10^7$	3.567	30.680	42.744	15.832	92.825		$1.187 \times 10^6$	
40.0 TeV	$4.000 \times 10^7$	3.607	41.110	57.154	21.619	123.491		$1.280 \times 10^6$	
80.0 TeV	$8.000 \times 10^7$	3.705	82.932	114.845	45.921	247.402		$1.505 \times 10^6$	
100. TeV	$1.000 \times 10^8$	3.737	103.900	143.725	58.525	309.887		$1.577 \times 10^6$	