

**Table 203: Muons in Muscle-equivalent liquid with sucrose**

$\langle Z/A \rangle$	$\rho$ [g/cm <sup>3</sup> ]	$I$ [eV]	$a$	$k = m_s$	$x_0$	$x_1$	$\bar{C}$	$\delta_0$
0.54828	1.110	74.3	0.09481	3.4699	0.2098	2.7550	3.3910	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	$4.704 \times 10^1$	7.877				7.877	$7.016 \times 10^{-1}$	
14.0 MeV	$5.616 \times 10^1$	6.144				6.144	$1.283 \times 10^0$	
20.0 MeV	$6.802 \times 10^1$	4.798				4.798	$2.400 \times 10^0$	
30.0 MeV	$8.509 \times 10^1$	3.722				3.722	$4.800 \times 10^0$	
40.0 MeV	$1.003 \times 10^2$	3.178				3.178	$7.727 \times 10^0$	
80.0 MeV	$1.527 \times 10^2$	2.386				2.386	$2.272 \times 10^1$	
100. MeV	$1.764 \times 10^2$	2.242				2.242	$3.138 \times 10^1$	
140. MeV	$2.218 \times 10^2$	2.088				2.088	$4.996 \times 10^1$	
200. MeV	$2.868 \times 10^2$	1.999				1.999	$7.945 \times 10^1$	
300. MeV	$3.917 \times 10^2$	1.964			0.000	1.965	$1.301 \times 10^2$	
318. MeV	$4.105 \times 10^2$	1.964			0.000	1.964	<i>Minimum ionization</i>	
400. MeV	$4.945 \times 10^2$	1.970			0.000	1.971	$1.809 \times 10^2$	
800. MeV	$8.995 \times 10^2$	2.044	0.000		0.000	2.045	$3.803 \times 10^2$	
1.00 GeV	$1.101 \times 10^3$	2.078	0.000		0.000	2.079	$4.773 \times 10^2$	
1.40 GeV	$1.502 \times 10^3$	2.133	0.000		0.001	2.134	$6.671 \times 10^2$	
2.00 GeV	$2.103 \times 10^3$	2.194	0.001	0.000	0.001	2.196	$9.440 \times 10^2$	
3.00 GeV	$3.104 \times 10^3$	2.263	0.001	0.001	0.001	2.266	$1.392 \times 10^3$	
4.00 GeV	$4.104 \times 10^3$	2.311	0.001	0.001	0.002	2.316	$1.828 \times 10^3$	
8.00 GeV	$8.105 \times 10^3$	2.421	0.004	0.003	0.004	2.432	$3.509 \times 10^3$	
10.0 GeV	$1.011 \times 10^4$	2.455	0.005	0.005	0.005	2.469	$4.324 \times 10^3$	
14.0 GeV	$1.411 \times 10^4$	2.503	0.007	0.008	0.007	2.525	$5.926 \times 10^3$	
20.0 GeV	$2.011 \times 10^4$	2.552	0.011	0.013	0.009	2.585	$8.273 \times 10^3$	
30.0 GeV	$3.011 \times 10^4$	2.605	0.018	0.022	0.013	2.659	$1.208 \times 10^4$	
40.0 GeV	$4.011 \times 10^4$	2.641	0.026	0.032	0.018	2.717	$1.580 \times 10^4$	
80.0 GeV	$8.011 \times 10^4$	2.724	0.058	0.079	0.034	2.895	$3.004 \times 10^4$	
100. GeV	$1.001 \times 10^5$	2.750	0.076	0.104	0.042	2.972	$3.686 \times 10^4$	
140. GeV	$1.401 \times 10^5$	2.788	0.112	0.156	0.059	3.115	$5.000 \times 10^4$	
200. GeV	$2.001 \times 10^5$	2.828	0.168	0.238	0.084	3.319	$6.865 \times 10^4$	
300. GeV	$3.001 \times 10^5$	2.874	0.266	0.379	0.125	3.644	$9.739 \times 10^4$	
400. GeV	$4.001 \times 10^5$	2.906	0.367	0.525	0.167	3.965	$1.237 \times 10^5$	
800. GeV	$8.001 \times 10^5$	2.985	0.788	1.134	0.337	5.244	$2.111 \times 10^5$	
1.00 TeV	$1.000 \times 10^6$	3.010	1.006	1.449	0.424	5.889	$2.471 \times 10^5$	
1.04 TeV	$1.045 \times 10^6$	3.015	1.054	1.518	0.443	6.031	<i>Muon critical energy</i>	
1.40 TeV	$1.400 \times 10^6$	3.049	1.444	2.075	0.601	7.169	$3.086 \times 10^5$	
2.00 TeV	$2.000 \times 10^6$	3.091	2.118	3.035	0.870	9.114	$3.826 \times 10^5$	
3.00 TeV	$3.000 \times 10^6$	3.139	3.247	4.633	1.334	12.352	$4.765 \times 10^5$	
4.00 TeV	$4.000 \times 10^6$	3.173	4.396	6.253	1.805	15.627	$5.484 \times 10^5$	
8.00 TeV	$8.000 \times 10^6$	3.258	9.048	12.780	3.768	28.854	$7.339 \times 10^5$	
10.0 TeV	$1.000 \times 10^7$	3.286	11.401	16.067	4.779	35.533	$7.963 \times 10^5$	
14.0 TeV	$1.400 \times 10^7$	3.329	16.096	22.616	6.862	48.904	$8.918 \times 10^5$	
20.0 TeV	$2.000 \times 10^7$	3.375	23.200	32.495	10.063	69.133	$9.945 \times 10^5$	
30.0 TeV	$3.000 \times 10^7$	3.428	35.029	48.931	15.619	103.009	$1.112 \times 10^6$	
40.0 TeV	$4.000 \times 10^7$	3.466	46.922	65.421	21.322	137.133	$1.196 \times 10^6$	
80.0 TeV	$8.000 \times 10^7$	3.561	94.623	131.435	45.257	274.877	$1.398 \times 10^6$	
100. TeV	$1.000 \times 10^8$	3.592	118.542	164.481	57.665	344.281	$1.463 \times 10^6$	