

**Table 135: Muons in Carbon tetrachloride CCl<sub>4</sub>**

$\langle Z/A \rangle$	$\rho$ [g/cm <sup>3</sup> ]	$I$ [eV]	$a$	$k = m_s$	$x_0$	$x_1$	$\bar{C}$	$\delta_0$
0.49107	1.594	166.3	0.19018	3.0116	0.1773	2.9165	4.7712	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	$4.704 \times 10^1$	6.320				6.320	$8.817 \times 10^{-1}$	
14.0 MeV	$5.616 \times 10^1$	4.951				4.951	$1.604 \times 10^0$	
20.0 MeV	$6.802 \times 10^1$	3.883				3.883	$2.988 \times 10^0$	
30.0 MeV	$8.509 \times 10^1$	3.025				3.025	$5.946 \times 10^0$	
40.0 MeV	$1.003 \times 10^2$	2.590				2.590	$9.542 \times 10^0$	
80.0 MeV	$1.527 \times 10^2$	1.957				1.957	$2.786 \times 10^1$	
100. MeV	$1.764 \times 10^2$	1.843				1.843	$3.842 \times 10^1$	
140. MeV	$2.218 \times 10^2$	1.729				1.730	$6.092 \times 10^1$	
200. MeV	$2.868 \times 10^2$	1.669				1.669	$9.636 \times 10^1$	
277. MeV	$3.673 \times 10^2$	1.654			0.000	1.655	<i>Minimum ionization</i>	
300. MeV	$3.917 \times 10^2$	1.655			0.000	1.656	$1.567 \times 10^2$	
400. MeV	$4.945 \times 10^2$	1.671	0.000		0.000	1.671	$2.168 \times 10^2$	
800. MeV	$8.995 \times 10^2$	1.757	0.000		0.000	1.757	$4.501 \times 10^2$	
1.00 GeV	$1.101 \times 10^3$	1.793	0.000		0.000	1.794	$5.627 \times 10^2$	
1.40 GeV	$1.502 \times 10^3$	1.850	0.001	0.000	0.001	1.852	$7.820 \times 10^2$	
2.00 GeV	$2.103 \times 10^3$	1.913	0.001	0.001	0.001	1.915	$1.100 \times 10^3$	
3.00 GeV	$3.104 \times 10^3$	1.983	0.002	0.001	0.001	1.988	$1.612 \times 10^3$	
4.00 GeV	$4.104 \times 10^3$	2.031	0.003	0.002	0.002	2.038	$2.109 \times 10^3$	
8.00 GeV	$8.105 \times 10^3$	2.140	0.007	0.007	0.004	2.158	$4.010 \times 10^3$	
10.0 GeV	$1.011 \times 10^4$	2.172	0.009	0.010	0.004	2.196	$4.928 \times 10^3$	
14.0 GeV	$1.411 \times 10^4$	2.219	0.014	0.016	0.006	2.255	$6.724 \times 10^3$	
20.0 GeV	$2.011 \times 10^4$	2.265	0.022	0.025	0.009	2.322	$9.345 \times 10^3$	
30.0 GeV	$3.011 \times 10^4$	2.315	0.036	0.044	0.013	2.408	$1.357 \times 10^4$	
40.0 GeV	$4.011 \times 10^4$	2.348	0.051	0.065	0.017	2.480	$1.766 \times 10^4$	
80.0 GeV	$8.011 \times 10^4$	2.422	0.115	0.156	0.032	2.725	$3.302 \times 10^4$	
100. GeV	$1.001 \times 10^5$	2.445	0.148	0.205	0.040	2.839	$4.021 \times 10^4$	
140. GeV	$1.401 \times 10^5$	2.480	0.218	0.307	0.056	3.061	$5.378 \times 10^4$	
200. GeV	$2.001 \times 10^5$	2.516	0.327	0.468	0.079	3.391	$7.240 \times 10^4$	
300. GeV	$3.001 \times 10^5$	2.557	0.515	0.740	0.118	3.930	$9.977 \times 10^4$	
400. GeV	$4.001 \times 10^5$	2.585	0.709	1.022	0.158	4.474	$1.236 \times 10^5$	
538. GeV	$5.381 \times 10^5$	2.615	0.983	1.420	0.212	5.231	<i>Muon critical energy</i>	
800. GeV	$8.001 \times 10^5$	2.656	1.513	2.183	0.319	6.671	$1.964 \times 10^5$	
1.00 TeV	$1.000 \times 10^6$	2.679	1.927	2.780	0.400	7.786	$2.241 \times 10^5$	
1.40 TeV	$1.400 \times 10^6$	2.713	2.759	3.970	0.568	10.010	$2.693 \times 10^5$	
2.00 TeV	$2.000 \times 10^6$	2.751	4.034	5.790	0.821	13.397	$3.209 \times 10^5$	
3.00 TeV	$3.000 \times 10^6$	2.794	6.166	8.816	1.257	19.034	$3.833 \times 10^5$	
4.00 TeV	$4.000 \times 10^6$	2.825	8.331	11.879	1.701	24.736	$4.292 \times 10^5$	
8.00 TeV	$8.000 \times 10^6$	2.901	17.076	24.201	3.543	47.722	$5.436 \times 10^5$	
10.0 TeV	$1.000 \times 10^7$	2.926	21.491	30.400	4.491	59.308	$5.811 \times 10^5$	
14.0 TeV	$1.400 \times 10^7$	2.964	30.303	42.759	6.440	82.467	$6.381 \times 10^5$	
20.0 TeV	$2.000 \times 10^7$	3.005	43.618	61.386	9.431	117.440	$6.987 \times 10^5$	
30.0 TeV	$3.000 \times 10^7$	3.053	65.758	92.394	14.612	175.818	$7.679 \times 10^5$	
40.0 TeV	$4.000 \times 10^7$	3.087	87.991	123.491	19.923	234.492	$8.170 \times 10^5$	
80.0 TeV	$8.000 \times 10^7$	3.172	177.123	247.966	42.154	470.416	$9.350 \times 10^5$	
100. TeV	$1.000 \times 10^8$	3.200	221.794	310.268	53.656	588.918	$9.730 \times 10^5$	