

## Muons in lithium (Li)

Z	A [g/mol]	$\rho$ [g/cm <sup>3</sup> ]	I [eV]	$a$	$k = m_s$	$x_0$	$x_1$	$\bar{C}$	$\delta_0$
3 (Li)	6.94(2)	0.534	40.0	0.95136	2.4993	0.1304	1.6397	3.1221	0.14

  

T	p	Ionization	Brems	Pair prod	Photonucl	Total	CSDA range
	[MeV/c]			[MeV cm <sup>2</sup> /g]			[g/cm <sup>2</sup> ]
10.0 MeV	$4.704 \times 10^1$	6.698				6.698	$8.207 \times 10^{-1}$
14.0 MeV	$5.616 \times 10^1$	5.209				5.209	$1.505 \times 10^0$
20.0 MeV	$6.802 \times 10^1$	4.055				4.055	$2.826 \times 10^0$
30.0 MeV	$8.509 \times 10^1$	3.134				3.135	$5.671 \times 10^0$
40.0 MeV	$1.003 \times 10^2$	2.669				2.669	$9.151 \times 10^0$
80.0 MeV	$1.527 \times 10^2$	1.988				1.988	$2.708 \times 10^1$
100. MeV	$1.764 \times 10^2$	1.865				1.865	$3.750 \times 10^1$
140. MeV	$2.218 \times 10^2$	1.739				1.739	$5.981 \times 10^1$
200. MeV	$2.868 \times 10^2$	1.667				1.667	$9.519 \times 10^1$
300. MeV	$3.917 \times 10^2$	1.639			0.000	1.639	$1.559 \times 10^2$
318. MeV	$4.105 \times 10^2$	1.639			0.000	1.639	<i>Minimum ionization</i>
400. MeV	$4.945 \times 10^2$	1.643			0.000	1.644	$2.168 \times 10^2$
800. MeV	$8.995 \times 10^2$	1.701			0.000	1.701	$4.561 \times 10^2$
1.00 GeV	$1.101 \times 10^3$	1.727			0.000	1.727	$5.727 \times 10^2$
1.40 GeV	$1.502 \times 10^3$	1.768	0.000		0.001	1.769	$8.014 \times 10^2$
2.00 GeV	$2.103 \times 10^3$	1.813	0.000		0.001	1.814	$1.136 \times 10^3$
3.00 GeV	$3.104 \times 10^3$	1.863	0.000	0.000	0.002	1.865	$1.679 \times 10^3$
4.00 GeV	$4.104 \times 10^3$	1.897	0.001	0.000	0.002	1.900	$2.210 \times 10^3$
8.00 GeV	$8.105 \times 10^3$	1.977	0.001	0.001	0.004	1.984	$4.265 \times 10^3$
10.0 GeV	$1.011 \times 10^4$	2.002	0.002	0.002	0.005	2.011	$5.266 \times 10^3$
14.0 GeV	$1.411 \times 10^4$	2.039	0.003	0.003	0.007	2.052	$7.235 \times 10^3$
20.0 GeV	$2.011 \times 10^4$	2.077	0.005	0.005	0.009	2.096	$1.013 \times 10^4$
30.0 GeV	$3.011 \times 10^4$	2.118	0.008	0.009	0.014	2.149	$1.483 \times 10^4$
40.0 GeV	$4.011 \times 10^4$	2.146	0.011	0.014	0.018	2.189	$1.944 \times 10^4$
80.0 GeV	$8.011 \times 10^4$	2.212	0.025	0.034	0.035	2.305	$3.722 \times 10^4$
100. GeV	$1.001 \times 10^5$	2.232	0.032	0.045	0.043	2.353	$4.580 \times 10^4$
140. GeV	$1.401 \times 10^5$	2.262	0.048	0.067	0.060	2.438	$6.250 \times 10^4$
200. GeV	$2.001 \times 10^5$	2.294	0.073	0.103	0.086	2.556	$8.653 \times 10^4$
300. GeV	$3.001 \times 10^5$	2.330	0.115	0.165	0.128	2.739	$1.243 \times 10^5$
400. GeV	$4.001 \times 10^5$	2.355	0.160	0.230	0.171	2.916	$1.597 \times 10^5$
800. GeV	$8.001 \times 10^5$	2.417	0.346	0.502	0.346	3.611	$2.827 \times 10^5$
1.00 TeV	$1.000 \times 10^6$	2.437	0.443	0.643	0.435	3.959	$3.356 \times 10^5$
1.40 TeV	$1.400 \times 10^6$	2.468	0.638	0.925	0.617	4.649	$4.287 \times 10^5$
1.58 TeV	$1.578 \times 10^6$	2.479	0.727	1.053	0.699	4.958	<i>Muon critical energy</i>
2.00 TeV	$2.000 \times 10^6$	2.501	0.940	1.360	0.894	5.695	$5.451 \times 10^5$
3.00 TeV	$3.000 \times 10^6$	2.539	1.446	2.085	1.371	7.441	$6.983 \times 10^5$
4.00 TeV	$4.000 \times 10^6$	2.566	1.962	2.823	1.857	9.207	$8.190 \times 10^5$
8.00 TeV	$8.000 \times 10^6$	2.633	4.057	5.799	3.881	16.370	$1.141 \times 10^6$
10.0 TeV	$1.000 \times 10^7$	2.655	5.119	7.301	4.924	19.999	$1.251 \times 10^6$
14.0 TeV	$1.400 \times 10^7$	2.689	7.239	10.291	7.075	27.293	$1.421 \times 10^6$
20.0 TeV	$2.000 \times 10^7$	2.725	10.450	14.806	10.382	38.363	$1.606 \times 10^6$
30.0 TeV	$3.000 \times 10^7$	2.767	15.797	22.311	16.131	57.006	$1.819 \times 10^6$
40.0 TeV	$4.000 \times 10^7$	2.797	21.178	29.845	22.035	75.855	$1.970 \times 10^6$
80.0 TeV	$8.000 \times 10^7$	2.871	42.758	60.014	46.852	152.495	$2.335 \times 10^6$
100. TeV	$1.000 \times 10^8$	2.896	53.580	75.120	59.730	191.326	$2.452 \times 10^6$