

Table 290: Muons in Bromine liquid (Br₂)

Z	A [g/mol]	ρ [g/cm ³]	I [eV]	a	$k = m_s$	x_0	x_1	\bar{C}	δ_0
35 (Br)	79.904 (1)	3.103	357.0	0.22114	3.0000	0.3669	3.0000	5.7268	0.00
T	p [MeV/c]	Ionization	Brems	Pair prod [MeV cm ² /g]	Photonucl	Total	CSDA range [g/cm ²]		
10.0 MeV	4.704×10^1	4.992				4.992	1.134×10^0		
14.0 MeV	5.616×10^1	3.937				3.937	2.045×10^0		
20.0 MeV	6.802×10^1	3.106				3.106	3.779×10^0		
30.0 MeV	8.509×10^1	2.434				2.434	7.466×10^0		
40.0 MeV	1.003×10^2	2.091				2.092	1.193×10^1		
80.0 MeV	1.527×10^2	1.593				1.593	3.451×10^1		
100. MeV	1.764×10^2	1.506				1.506	4.745×10^1		
140. MeV	2.218×10^2	1.422				1.422	7.491×10^1		
200. MeV	2.868×10^2	1.384				1.384	1.178×10^2		
243. MeV	3.325×10^2	1.380				1.380	<i>Minimum ionization</i>		
300. MeV	3.917×10^2	1.385	0.000		0.000	1.386	1.902×10^2		
400. MeV	4.945×10^2	1.406	0.000		0.000	1.407	2.618×10^2		
800. MeV	8.995×10^2	1.497	0.001		0.000	1.498	5.371×10^2		
1.00 GeV	1.101×10^3	1.532	0.001		0.000	1.534	6.690×10^2		
1.40 GeV	1.502×10^3	1.588	0.001	0.000	0.001	1.591	9.248×10^2		
2.00 GeV	2.103×10^3	1.649	0.002	0.001	0.001	1.653	1.294×10^3		
3.00 GeV	3.104×10^3	1.716	0.004	0.002	0.001	1.723	1.886×10^3		
4.00 GeV	4.104×10^3	1.761	0.005	0.004	0.002	1.773	2.458×10^3		
8.00 GeV	8.105×10^3	1.864	0.013	0.013	0.003	1.893	4.633×10^3		
10.0 GeV	1.011×10^4	1.894	0.017	0.018	0.004	1.933	5.678×10^3		
14.0 GeV	1.411×10^4	1.937	0.026	0.029	0.006	1.998	7.712×10^3		
20.0 GeV	2.011×10^4	1.980	0.040	0.047	0.008	2.076	1.066×10^4		
30.0 GeV	3.011×10^4	2.025	0.066	0.082	0.012	2.185	1.535×10^4		
40.0 GeV	4.011×10^4	2.055	0.093	0.120	0.015	2.284	1.982×10^4		
80.0 GeV	8.011×10^4	2.122	0.211	0.287	0.030	2.651	3.605×10^4		
100. GeV	1.001×10^5	2.143	0.273	0.377	0.037	2.831	4.335×10^4		
140. GeV	1.401×10^5	2.173	0.401	0.563	0.052	3.190	5.666×10^4		
200. GeV	2.001×10^5	2.206	0.601	0.858	0.074	3.739	7.402×10^4		
281. GeV	2.811×10^5	2.236	0.877	1.256	0.104	4.473	<i>Muon critical energy</i>		
300. GeV	3.001×10^5	2.242	0.943	1.351	0.111	4.647	9.797×10^4		
400. GeV	4.001×10^5	2.268	1.296	1.862	0.148	5.574	1.176×10^5		
800. GeV	8.001×10^5	2.330	2.758	3.959	0.299	9.348	1.724×10^5		
1.00 TeV	1.000×10^6	2.351	3.510	5.033	0.376	11.270	1.919×10^5		
1.40 TeV	1.400×10^6	2.382	5.018	7.176	0.532	15.109	2.224×10^5		
2.00 TeV	2.000×10^6	2.415	7.325	10.448	0.770	20.960	2.560×10^5		
3.00 TeV	3.000×10^6	2.454	11.181	15.886	1.178	30.699	2.952×10^5		
4.00 TeV	4.000×10^6	2.481	15.090	21.384	1.592	40.548	3.235×10^5		
8.00 TeV	8.000×10^6	2.549	30.860	43.490	3.310	80.210	3.923×10^5		
10.0 TeV	1.000×10^7	2.571	38.811	54.604	4.193	100.181	4.146×10^5		
14.0 TeV	1.400×10^7	2.606	54.670	76.779	6.006	140.062	4.482×10^5		
20.0 TeV	2.000×10^7	2.642	78.608	110.188	8.786	200.225	4.838×10^5		
30.0 TeV	3.000×10^7	2.685	118.459	165.776	13.592	300.512	5.243×10^5		
40.0 TeV	4.000×10^7	2.715	158.463	221.502	18.513	401.194	5.530×10^5		
80.0 TeV	8.000×10^7	2.791	318.748	444.574	39.070	805.184	6.220×10^5		
100. TeV	1.000×10^8	2.816	399.040	556.220	49.690	1007.767	6.442×10^5		