

Elementary Particles

Particle Name	Lifespan Seconds	Mass MeV	Charge	Spin
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Baryons

Proton	Stable	938.2723	+1	½
Antiproton	Stable	938.2723	-1	½
Neutron	889.1.....	939.5656	0	½
Antineutron	889.1.....	939.5656	0	½
Lambda hyperon.....	2.632×10^{-10}	1115.63	0	½
Lambda antihyperon	2.632×10^{-10}	1115.63	0	½
Positive Sigma	7.99×10^{-9}	1189.37	+1	½
Neutral Sigma.....	7.4×10^{-20}	1192.55	0	½
Negative Sigma	1.479×10^{-10}	1197.43	-1	½
Neutral Xi.....	2.9×10^{-10}	1314.9	0	½
Negative Xi	1.639×10^{-10}	1321.32	-1	½
Negative Omega	8.22×10^{-9}	1672.43	-1	½

Gluons

Red to blue.....	Stable	0	0	1
Red to green	Stable	0	0	1
Green to red.....	Stable	0	0	1
Green to blue	Stable	0	0	1
Blue to red.....	Stable	0	0	1
Blue to green.....	Stable	0	0	1
Neutral (1).....	Stable	0	0	1
Neutral (2).....	Stable	0	0	1

Leptons

Electron Neutrino.....	Stable.....	$<1.7 \times 10^{-5}$	0.....	$\frac{1}{2}$
Electron Antineutrino	Stable.....	$<1.7 \times 10^{-5}$	0.....	$\frac{1}{2}$
Muon Neutrino	Stable.....	<0.27	0.....	$\frac{1}{2}$
Muon Antineutrino	Stable.....	<0.27	0.....	$\frac{1}{2}$
Tau Neutrino	Stable.....	<35	0.....	$\frac{1}{2}$
Tau Antineutrino.....	Stable.....	<35	0.....	$\frac{1}{2}$
Electron	Stable.....	0.51099	-1.....	$\frac{1}{2}$
Positron.....	Stable.....	0.51099	+1.....	$\frac{1}{2}$
Muon	2.197×10^{-6}	105.658	-1.....	$\frac{1}{2}$
Antimuon.....	2.197×10^{-6}	105.658	+1.....	$\frac{1}{2}$
Tau.....	3.05×10^{-13}	1784.1	-1.....	$\frac{1}{2}$
Antitau	3.05×10^{-13}	1784.1	+1.....	$\frac{1}{2}$

Mesons

Positive Pion	2.6×10^{-8}	139.568	+1.....	0
Negative Pion.....	2.6×10^{-8}	139.568	-1.....	0
Neutral Pion.....	8.4×10^{-17}	134.974	0.....	0
Positive Kaon.....	1.2×10^{-8}	493.646	+1.....	0
Neutral Kaon – Short.....	8.922×10^{-11}	497.671	0.....	0
Neutral Kaon – Long	5.17×10^{-8}	497.671	0.....	0
Negative Kaon	1.2×10^{-8}	493.646	-1.....	0
Eta.....	547.45	0.....	0
Positive B.....	12.9×10^{-13}	5278.6	+1.....	0
Negative B	12.9×10^{-13}	5278.6	-1.....	0
Neutral B.....	12.9×10^{-13}	5278.7	0.....	0

Mesons continued

Positive D.....	10.66×10^{-13}	1869.3	+1.....	0
Negative D.....	10.66×10^{-13}	1869.3	-1.....	0
Neutral D	4.20×10^{-13}	1864.5	0.....	0
Neutral Kaon.....	497.671	0.....	0
J/psi.....	10^{-20}	3096.93	0.....	1

Quarks

Up.....	Stable.....	2 to 8.....	+ 2/3.....	½
Down.....	Stable.....	5 to 15.....	-1/3.....	½
Strange.....	Stable.....	100 to 300.....	-1/3.....	½
Charm.....		1300 to 1700.....	+2/3.....	½
Top (Truth).....		800000.....	+2/3.....	½
Bottom (Beauty).....		4700 to 5300.....	-1/3.....	½

Gauge & Higgs Bosons

Photon.....	Stable.....	0.....	0.....	1
Positive W.....	10-20.....	80220.....	+1.....	1
Negative W.....	10-20.....	80220.....	-1.....	1
Neutral Z.....	10-20.....	91173.....	0.....	1
Gluon.....		0.....	0.....	1

Note that there are many more subatomic particles than those listed in this table, but the above list contains most of the "common" particles. For detailed information see references such as the *Handbook of Chemistry and Physics by the Chemical Rubber Company*.