

Z	Element	w (nl = 1)	mass frac isotope 1	mass frac isotope 2	mass frac isotope 3
1	H	1.0079	7.06E-01	4.80E-05	
2	He	4.0026	2.93E-05	2.75E-01	
3	Li	6.9410	6.50E-10	9.35E-09	
4	Be	9.0120	1.66E-10		
5	B	10.8100	1.07E-09	4.73E-09	
6	C	12.0110	3.03E-03	3.65E-05	
7	N	14.0067	1.10E-03	4.36E-06	
8	O	15.9994	9.59E-03	3.89E-06	2.17E-05
9	F	18.9984	4.05E-07		
10	Ne	20.1790	1.62E-03	4.13E-06	1.30E-04
11	Na	22.9898	3.34E-05		
12	Mg	24.3050	5.15E-04	6.77E-05	7.76E-05
13	Al	26.9815	5.80E-05		
14	Si	28.0855	6.53E-04	3.43E-05	2.35E-05
15	P	30.9738	8.16E-06		
16	S	32.0600	3.96E-04	3.22E-06	1.87E-05
17	Cl	35.4530	2.53E-06	8.54E-07	
18	Ar	39.9480	7.74E-05	1.54E-05	2.53E-08
19	K	39.0983	3.47E-06	5.54E-09	2.63E-07
20	Ca	40.0800	5.99E-05	4.20E-07	8.97E-08
21	Sc	44.9559	3.89E-08		
22	Ti	47.8800	2.23E-07	2.08E-07	2.15E-06
23	V	50.9415	9.26E-10	3.77E-07	
24	Cr	51.9960	7.42E-07	1.49E-05	1.72E-06
25	Mn	54.9380	1.33E-05		
26	Fe	55.8470	7.13E-05	1.17E-03	2.85E-05
27	Co	58.9332	3.36E-06		
28	Ni	58.6900	4.94E-05	1.96E-05	8.59E-07
29	Cu	63.5460	5.75E-07	2.65E-07	
30	Zn	65.3900	9.92E-07	5.88E-07	8.76E-08
31	Ga	69.7200	3.96E-08	2.71E-08	
32	Ge	72.5900	4.32E-08	5.94E-08	1.71E-08
33	As	74.9126	1.24E-08		
34	Se	78.9600	1.03E-09	1.08E-08	9.15E-09
35	Br	79.9040	1.19E-08	1.19E-08	
36	Kr	83.8000	3.02E-10	2.02E-09	1.07E-08
37	Rb	85.4678	1.10E-08	4.64E-09	
38	Sr	87.6200	2.80E-10	5.05E-09	3.32E-09
39	Y	88.9059	1.04E-08		
40	Zr	91.2240	1.34E-08	2.95E-09	4.56E-09
41	Nb	92.9064	1.64E-09		
42	Mo	95.9400	8.80E-10	5.61E-10	9.76E-10
43	Tc	97.9072	8.96E-10		
44	Ru	101.0700	2.50E-10	8.68E-11	5.91E-10
45	Rh	102.9060	8.96E-10		
46	Pd	106.4200	3.66E-11	4.08E-10	8.23E-10
47	Ag	107.8680	6.82E-10	6.45E-10	
48	Cd	112.4100	5.39E-11	3.91E-11	5.59E-10
49	In	114.8200	2.26E-11	5.12E-10	
50	Sn	118.7100	1.05E-10	7.18E-11	3.75E-11

51	Sb	121.7500	5.42E-10	4.11E-10	
52	Te	127.6000	1.31E-11	3.83E-10	1.33E-10
53	I	126.9050	2.89E-09		
54	Xe	131.2900	1.79E-11	1.62E-11	3.33E-10
55	Cs	132.9050	1.25E-09		
56	Ba	137.3300	1.57E-11	1.51E-11	3.69E-10
57	La	138.9060	1.43E-12	1.57E-09	
58	Ce	140.1200	7.43E-12	9.88E-12	3.58E-09
59	Pr	140.9080	5.96E-10		
60	Nd	144.2400	8.08E-10	3.62E-10	7.18E-10
61	Pm	145.0000	2.43E-10		
62	Sm	150.3600	2.91E-11	1.48E-10	1.09E-10
63	Eu	151.9600	1.78E-10	1.97E-10	
64	Gd	157.2500	2.54E-12	2.80E-11	1.91E-10
65	Tb	158.9254	2.43E-10		
66	Dy	162.5000	8.72E-13	1.51E-12	3.73E-11
67	Ho	164.9300	3.71E-10		
68	Er	167.2600	1.44E-12	1.68E-11	3.54E-10
69	Tm	168.9340	1.62E-10		
70	Yb	173.0400	1.37E-12	3.25E-11	1.53E-10
71	Lu	174.9670	1.58E-10	4.63E-12	
72	Hf	178.4900	1.10E-12	3.53E-11	1.28E-10
73	Ta	180.9480	1.13E-14	9.48E-11	
74	W	183.8500	7.88E-13	1.61E-10	8.80E-11
75	Re	186.2070	9.03E-11	1.66E-10	
76	Os	190.2000	5.68E-13	5.03E-11	3.82E-11
77	Ir	192.2200	1.19E-09	2.02E-09	
78	Pt	195.0800	8.17E-13	5.10E-11	2.16E-09
79	Au	196.9670	9.32E-10		
80	Hg	200.5900	2.38E-12	1.71E-10	2.88E-10
81	Tl	204.3830	2.79E-10	6.74E-10	
82	Pb	207.2000	3.15E-10	3.09E-09	3.37E-09
83	Bi	208.9800	7.61E-10		
84	Po	209.0000	1.00E-11		
85	At	210.0000	1.00E-11		
86	Rn	222.0000	1.00E-11		
87	Fr	223.0000	1.00E-11		
88	Ra	226.0250	1.00E-11		
89	Ac	227.0280	1.00E-11		
90	Th	232.0380	2.46E-10		
91	Pa	231.0360	1.00E-12		
92	U	238.0290	3.41E-11	1.09E-10	
93	Np	237.0480	1.00E-11		
94	Pu	244.0000	1.00E-11		
95	Am	243.0000	1.00E-11		
96	Cm	247.0000	1.00E-11		
97	Bk	247.0000	1.00E-11		
98	Cf	252.1000	1.00E-11		
99	Es	252.0000	1.00E-11		
100	Fm	257.0000	1.00E-11		
101	Md	258.0000	1.00E-11		

102	No	259.0000	1.00E-11
103	:Lw	260.0000	1.00E-11
104	Rf	261.1088	1.00E-11
105	Db	262.1141	1.00E-11
106	Sg	266.1219	1.00E-11
107	Bh	264.1200	1.00E-11
108	Hs	277.0000	1.00E-11
109	Mt	268.1388	1.00E-11
110	Ds	271.0000	1.00E-11
111	Rg	272.1535	1.00E-11
112	Uub	285.0000	1.00E-11
113	Uut	284.0000	1.00E-11
114	Uuq	289.0000	1.00E-11
115	Uup	288.0000	1.00E-11
116	Uuh	289.0000	1.00E-11
117	Uus	294.0000	1.00E-11

mass frac isotope 4 mass frac isotope 5 mass frac isotope 6 mass frac isotope 7

9.38E-08

1.42E-06

2.79E-09

1.38E-07

1.64E-07

1.64E-07

4.36E-07

3.70E-06

2.78E-06

7.27E-07

4.06E-07

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8.12E-08

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2.90E-08

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1.08E-08

5.46E-08

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4.71E-09

7.77E-10

1.03E-09

5.99E-10

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6.22E-10

5.92E-10

8.07E-10

1.52E-09

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1.02E-09

1.01E-09

4.54E-10

5.78E-10

1.10E-09

5.63E-10

1.34E-09

1.63E-09

8.67E-10

2.76E-09

9.87E-10

7.18E-10	1.08E-09	2.90E-09	4.95E-09
4.18E-09	6.74E-10	3.38E-09	4.14E-09
1.01E-09	1.21E-09	1.75E-09	1.12E-08
4.53E-10			
2.52E-10	5.24E-10	1.79E-10	1.77E-10
1.34E-10	7.25E-11	2.65E-10	2.28E-10
2.67E-10	2.05E-10	3.28E-10	2.92E-10
3.03E-10	4.14E-10	4.05E-10	4.60E-10
2.43E-10	2.86E-10	1.61E-10	
2.36E-10	1.75E-10	3.47E-10	1.40E-10
1.89E-10	9.51E-11	2.46E-10	
1.90E-10	1.79E-10		
4.27E-10	5.21E-10	8.55E-10	1.35E-09
2.23E-09	1.68E-09	4.82E-10	
3.98E-10	2.28E-10	5.16E-10	1.20E-10
9.63E-09			

mass frac isotope 8	mass frac isotope 9	mass frac isotope 10	total mass frac
			7.06048000E-01
			2.75029300E-01
			1.00000000E-08
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			3.06650000E-03
			1.10436000E-03
			9.61559000E-03
			4.05000000E-07
			1.75413000E-03
			3.34000000E-05
			6.60300000E-04
			5.80000000E-05
			7.10800000E-04
			8.16000000E-06
			4.18013800E-04
			3.38400000E-06
			9.28253000E-05
			3.73854000E-06
			6.19704900E-05
			3.89000000E-08
			2.90900000E-06
			3.77926000E-07
			1.77980000E-05
			1.33000000E-05
			1.27350000E-03
			3.36000000E-06
			7.33660000E-05
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			1.24000000E-08
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			2.38000000E-08
			9.55220000E-08
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			5.18500000E-08
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			4.76180000E-09
			8.96000000E-10
			3.75160000E-09
			1.32700000E-09
3.55E-10			4.58800000E-09
			5.34600000E-10
3.79E-09	5.46E-10	6.93E-10	1.14873000E-08

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Mass Sum, g:

mass of element in Sun, g

1.40432947E+33
5.47033278E+32
1.98900000E+25
3.30174000E+23
1.15362000E+25
6.09926850E+30
2.19657204E+30
1.91254085E+31
8.05545000E+26
3.48896457E+30
6.64326000E+28
1.31333670E+30
1.15362000E+29
1.41378120E+30
1.62302400E+28
8.31429448E+29
6.73077600E+27
1.84629522E+29
7.43595606E+27
1.23259305E+29
7.73721000E+25
5.78600100E+27
7.51694814E+26
3.54002220E+28
2.64537000E+28
2.53299150E+30
6.68304000E+27
1.45924974E+29
1.67076000E+27
4.15183860E+27
1.32666300E+26
4.34994300E+26
2.46636000E+25
2.47192920E+26
4.73382000E+25
1.89993258E+26
3.11079600E+25
1.03129650E+26
2.06856000E+25
5.25036330E+25
3.26196000E+24
1.23079320E+25
1.78214400E+24
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1.98900000E+22
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1.989E+33