NATURALLY OCCURING ISOTOPES

ATOMIC #	ELEMENT	CHEM. SYMB	MASS #	%
1	Hydrogen	H	1	99.985
		D	2	0.014292
2	Helium	He	3	0.000137
			4	99.999863
3	Lithium	Li	6	7.42
			7	92.58
4	Berylium	Be	9	100
5	Boron	B	10	19.61
			11	80.39
6	Carbon	C	12	98.893
			13	1.107
7	Nitrogen	N	14	99.6337
			15	0.3663
8	Oxygen	O	16	99.759
			17	0.0374
			18	0.2039
9	Fluorine	F	19	100
10	Neon	Ne	20	90.92
			21	0.26
			22	8.82
11	Sodium	Na	23	100
12	Magnesium	Mg	24	78.70
			25	10.13
			26	11.17
13	Aluminum	Al	27	100
14	Silicon	Si	28	92.21
			29	4.70
			30	3.09
15	Phosphorus	P	31	100
16	Sulfur	S	32	95.0
			33	0.76
			34	4.22
17	Chlorine	Cl	35	75.53
			37	24.47
18	Argon	Ar	36	0.337
			38	0.063
			40	99.600
19	Potassium	K	39	93.10
			40	0.0118
			41	6.88
20	Calcium	Ca	40	96.97
			42	0.64
			43	0.15
			44	2.06
			46	0.003
			48	0.18
21	Scandium	Sc	45	100
22	Titanium	Ti	46	7.93
			47	7.28
			48	73.94
			49	5.51
			50	5.34
23	Vanadium	V	50	0.24
			52	99.76
24	Chrome	Cr	50	4.31
			52	83.76
			53	9.55
			54	2.38
25	Manganese	Mn	55	100
26	Iron	Fe	54	5.82
			56	91.66
			57	2.19
			58	0.33
27	Cobalt	Co	59	100
28	Nickel	Ni	58	67.88
			60	26.23
			57	2.19
			58	0.33
29	Copper	Cu	63	69.09
			65	30.91
30	Zinc	Zn	64	48.89
			66	26.23
			67	4.11
			68	18.57
			70	0.62
31	Gallium	Ga	69	60.4
			71	39.6
32	Germanium	Ge	70	20.52
			72	27.43
			73	7.76
			74	36.54
			76	7.76
33	Arsenic	As	75	100
34	Selenium	Se	74	0.87
			76	9.02
			77	7.58
			78	23.52
			80	49.82
			82	9.19
35	Bromine	Br	79	50.54
			81	49.46
36	Krypton	Kr	78	0.35
			80	2.27
			82	11.56
			83	11.55
			84	56.90
			86	17.37
37	Rubidium	Rb	85	72.15
			87	27.85
38	Strontium	Sr	84	0.54
			86	9.86
			87	7.02
			88	82.56
39	Yttrium	Y	89	100
40	Zirconium	Zr	90	51.46
			91	11.23
			92	17.11
			94	17.40
			96	2.80
41	Niobium	Nb	93	100
42	Molybdenum	Mo	92	15.84
			94	9.04
			95	15.72
			96	16.53
			97	9.46
			98	23.78
			100	9.63
44	Ruthenium	Ru	96	5.51
			98	1.87
			99	12.72
			100	12.63
			101	17.07
			102	31.61
			104	18.58
45	Rhodium	Rh	103	100
46	Palladium	Pd	102	0.96
			104	10.97
			105	22.23
			106	27.33
			108	26.71
			110	11.81
47	Silver	Ag	107	51.35
			109	48.65
48	Cadmium	Cd	106	1.22
			108	0.875
			110	12.39
			111	12.75
			112	24.07
			113	12.26
			114	28.86
			116	7.58
49	Indium	In	113	4.28
			115	95.72
50	Tin	Sn	112	0.96
			114	0.66
			115	0.35
			116	14.30
			117	7.61
			118	24.03
			119	8.58
			120	32.85
			122	4.72
			124	5.94
51	Antimony	Sb	121	57.25
			123	42.75
52	Tellurium	Te	120	0.09
			122	2.46
			123	0.87
			124	4.61
			125	6.99
			126	18.71
			128	31.79
			130	34.48
53	Iodine	I	127	100
54	Xenon	Xe	124	0.09
			126	0.09
			128	1.92
			129	26.44
			130	4.08
			131	21.18
			132	26.89
			134	10.44
			136	8.87
55	Cesium	Cs	133	100
56	Barium	Ba	130	0.10
			132	0.09
			134	2.42
			135	6.59
			136	7.81
			137	11.32
			138	71.66
57	Lanthanum	La	138	0.09
			139	99.91
58	Cerium	Ce	136	0.19
			138	0.25
			140	88.48
			142	11.07
59	Praeseodymium	Pr	141	100

ATOMIC #	ELEMENT	CHEM SYMB	MASS #	%
60	Neodymium	Nd	142	27.11
			143	12.17
			144	23.85
			145	8.30
			146	17.22
			148	5.73
			150	5.62
61	Promethium	Pm	-	-
62	Samarium	Sm	144	3.09
			147	14.97
			148	11.24
			149	13.83
			150	7.44
			152	26.72
			154	22.71
63	Europium	Eu	151	47.83
			153	52.18
64	Gadolinium	Gd	152	0.20
			154	2.15
			155	14.73
			156	20.47
65	Terbium	Tb	159	100
66	Dysprosium	Dy	156	0.05
			158	0.09
			160	2.29
			161	18.88
			162	25.53
			163	24.97
			164	28.18
67	Holmium	Ho	165	100
68	Erbium	Er	162	0.14
			164	1.56
			166	33.41
			167	22.94
			168	27.07
			170	14.88
69	Thulium	Tm	169	100
70	Ytterbium	Yb	168	0.14
			170	3.03
			171	14.31
			172	21.82
			173	16.13
			174	31.84
			176	12.73
71	Lutetium	Lu	175	97.41
			176	2.59
72	Hafnium	Hf	174	0.18
			176	5.20
			177	18.50
			178	27.14
			179	13.75
			180	35.24

ATOMIC #	ELEMENT	CHEM SYMB	MASS #	%
73	Tantalum	Ta	180	0.01
			181	99.99
74	Tungsten	W	180	0.13
			182	26.41
			183	14.40
			184	30.64
			186	28.41
75	Rhenium	Rh	185	37.07
			187	62.93
76	Osmium	Os	184	0.02
			186	1.59
			187	1.64
			188	13.30
			189	16.10
			190	26.40
			192	41.00
77	Iridium	Ir	191	37.30
			193	62.70
78	Platinum	Pt	190	0.01
			192	0.72
			194	32.90
			195	33.80
			196	25.30
			198	7.21
79	Gold	Au	197	100
80	Mercury	Hg	196	0.15
			198	10.02
			199	16.84
			200	23.13
			201	13.22
			202	29.80
			204	6.85
81	Thallium	Tl	203	29.50
			205	70.50
82	Lead	Pb	204	1.48
			206	23.60
			207	22.60
			208	52.30
83	Bismuth	Bi	209	100
84	Polonium	Po	-	-
85	Astatine	At	-	-
86	Radon	Rn	-	-
87	Francium	Fr	-	-
88	Radium	Ra	-	-
89	Actinum	Ac	-	-
90	Thorium	Th	232	100
91	Protactnium	Pa	-	-
92	Uranium	U	234	0.0056
			235	0.7205
			238	99.2739

COMPONENTS IN ATMOSPHERIC AIR

Constituent	Symbol	Content
Nitrogen	N_2	78.084 %
Oxygen	O_2	20.946 %
Argon	Ar	0.934 %
Carbon dioxide	CO_2	0.033 %
Neon	Ne	18.18 ppm
Methane	CH_4	2.0 ppm
Helium	He	5.24 ppm
Krypton	Kr	1.14 ppm
Hydrogen	H_2	0.5 ppm
Nitrous oxide	N_2O	0.5 ppm
Xenon	Xe	0.087ppm

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