

Relative Atomic Masses (R.A.M.)

(Scaled to the relative atomic mass $^{12}\text{C} = 12$ exactly)

A number in parentheses denotes the atomic mass number of the isotope of longest known half - life.

Atomic Number	Name	Symbol	Relative Atomic Mass	Atomic Number	Name	Symbol	Relative Atomic Mass	Atomic Number	Name	Symbol	Relative Atomic Mass
1	Hydrogen	H	1.008	44	Ruthenium	Ru	101.1	89	Actinium	Ac	227
2	Helium	He	4.003	45	Rhodium	Rh	102.9	90	Thorium	Th	232
3	Lithium	Li	6.941	46	Palladium	Pd	106.4	91	Protactinium	Pa	231
4	Beryllium	Be	9.012	47	Silver	Ag	107.9	92	Uranium	U	238.0
5	Boron	B	10.81	48	Cadmium	Cd	112.4	93	Neptunium	Np	237
6	Carbon	C	12.01	49	Indium	In	114.8	94	Plutonium	Pu	244
7	Nitrogen	N	14.01	50	Tin	Sn	118.7	95	Americium	Am	243
8	Oxygen	O	16.00	51	Antimony	Sb	121.8	96	Curium	Cm	247
9	Fluorine	F	19.00	52	Tellurium	Te	127.6	97	Berkelium	Bk	247
10	Neon	Ne	20.18	53	Iodine	I	126.9	98	Californium	Cf	251
11	Sodium	Na	22.99	54	Xenon	Xe	131.3	99	Einsteinium	Es	254
12	Magnesium	Mg	24.31	55	Caesium	Cs	132.9	100	Fermium	Fm	257
13	Aluminium	Al	26.98	56	Barium	Ba	137.3	101	Mendelevium	Md	258
14	Silicon	Si	28.09	57	Lanthanum	La	138.9	102	Nobelium	No	259
15	Phosphorus	P	30.97	58	Cerium	Ce	140.1	103	Lawrencium	Lr	260
16	Sulphur	S	32.06	59	Praseodymium	Pr	140.9	104	Rutherfordium	Rf	261
17	Chlorine	Cl	35.45	60	Neodymium	Nd	144.2	105	Dubnium	Db	262
18	Argon	Ar	39.95	61	Promethium	Pm	(145)	106	Seaborgium	Sg	263
19	Potassium	K	39.10	62	Samarium	Sm	150.4	107	Bohrium	Bh	262
20	Calcium	Ca	40.08	63	Europium	Eu	152.0	108	Hassium	HS	265
21	Scandium	Sc	44.96	64	Gadolinium	Gd	157.3	109	Mitnerium	Mt	267
22	Titanium	Ti	47.90	65	Terbium	Tb	158.9	110*	Damstacium	Ds	
23	Vanadium	V	50.94	66	Dysprosium	Dy	162.5	111*	Roentgentium	Rg	
24	Chromium	Cr	52.00	67	Holmium	Ho	164.9	112*	Copernicium	Cn	
25	Manganese	Mn	54.94	68	Erbium	Er	167.3	113*	Ununtrium	Uut	
26	Iron	Fe	55.85	69	Thulium	Tm	168.9	114*	Ununquadium	Uuq	
27	Cobalt	Co	58.93	70	Ytterbium	Yb	173.0	115*	Ununpentium	Uup	
28	Nickel	Ni	58.70	71	Lutetium	Lu	175.0	116*	Ununhexium	Uuh	
29	Copper	Cu	63.55	72	Hafnium	Hf	178.5	117*	Ununseptium	Uus	
30	Zinc	Zn	65.38	73	Tantalum	Ta	180.9	118*	Ununoctium	Uuo	
31	Gallium	Ga	69.72	74	Tungsten	W	183.9	Notation for IUPAC Names for newly discovered elements			
32	Germanium	Ge	72.59	75	Rhenium	Re	186.2	Digit	Name	Abbreviation	
33	Arsenic	As	74.92	76	Osmium	Os	190.2	0	nil	n	
34	Selenium	Se	78.96	77	Iridium	Ir	192.2	1	Un	u	
35	Bromine	Br	79.90	78	Platinum	Pt	195.1	2	bi	b	
36	Krypton	Kr	83.80	79	Gold	Au	197.0	3	tri	t	
37	Rubidium	Rb	85.47	80	Mercury	Hg	200.6	4	quad	q	
38	Strontium	Sr	87.62	81	Thallium	Tl	204.4	5	pent	p	
39	Yttrium	Y	88.91	82	Lead	Pb	207.2	6	hex	h	
40	Zirconium	Zr	91.22	83	Bismuth	Bi	209.0	7	Sept	S	
41	Niobium	Nb	92.91	84	Polonium	Po	209	8	Oct	O	
42	Molybdenum	Mo	95.94	85	Astatine	At	210	* Atomic masses not confirmed.			
43	Technetium	Tc	(97)	86	Radon	Rn	222				
				87	Francium	Fr	223				
				88	Radium	Ra	226				

* Atomic masses not confirmed.

COMMON NAMES, FORMULAE AND CHEMICAL NAMES OF SOME SUBSTANCES

S.No.	Common Name	Chemical Name	Formulae
1.	Alum	Hydrated double sulphate of potassium and aluminium	$K_2SO_4 \cdot Al_2(SO_4)_3 \cdot 24 H_2O$
2.	Alumina/corundum	Aluminium oxide	Al_2O_3
3.	Ammonia water	Ammonium hydroxide	NH_4OH
4.	Anglesite	Lead sulphate	$PbSO_4$
5.	Aqua fortis (Strong water)	Concentrated nitric acid	HNO_3
6.	Aqua regia (Royal water)	Conc HCl + Cons HNO_3 (3:1 by volume)	$3HCl(Conc) + HNO_3(Conc)$
7.	Azote gas	Nitrogen	N_2
8.	Azurite blue	Basic copper carbonate	$2CuCO_3 \cdot Cu(OH)_2$
9.	Baking Soda	Sodium hydrogen carbonate	$NaHCO_3$
10.	Baryta	Barium Hydroxide	$Ba(OH)_2$
11.	Basic lead acetate		$Pb(OH)_2Pb(CH_3COO)_2$
12.	Bauxite (ore of Al)	Dihydrate Aluminium oxide	$Al_2O_3 \cdot 2H_2O$
13.	Bleaching powder	Calcium oxychloride or calcium (hypochlorite) chloride	$CaOCl_2$ or $Ca(OCl)Cl$
14.	Blue Vitriol	Pentahydrate of cupric sulphate	$CuSO_4 \cdot 5H_2O$
15.	Borax	Sodium tetraborate	$Na_2B_4O_7 \cdot 10H_2O$
16.	Brimstone	Sulphur	S
17.	Brine	Sodium Chloride solution	$NaCl$
18.	Calamine	Zinc carbonate	$ZnCO_3$
19.	Calgon	Sodium hexa-metaphosphate	$Na_2[Na_4(PO_3)_6]$
20.	Calomel	Mercurous chloride	Hg_2Cl_2
21.	Cane sugar or Beet sugar	Sucrose	$C_{12}H_{22}O_{11}$
22.	Caustic potash	Potassium hydroxide	KOH
23.	Caustic soda	Sodium hydroxide	$NaOH$
24.	Carnallite	Potassium magnesium chloride	$KCl \cdot MgCl_2 \cdot 6H_2O$
25.	Cerussite	Lead carbonate	$PbCO_3$
26.	Chalk or limestone or marble	Calcium Carbonate	$CaCO_3$
27.	Chile saltpetre or Caliche	Sodium nitrate	$NaNO_3$
28.	Copper glance	Copper sulphide	Cu_2S
29.	Cuprite or ruby copper	Cuprous oxide	Cu_2O
30.	Cryolite	Sodium Aluminium hexafluoride	Na_3AlF_6
31.	Dead burnt gypsum	Anhydrous calcium sulphate	$CaSO_4$
32.	Diaspore	Monohydrate aluminium oxide	$Al_2O_3 \cdot H_2O$
33.	Dry ice	Solid carbon dioxide	CO_2 (solid)
34.	Epsom salt	Heptahydrate of magnesium sulphate	$MgSO_4 \cdot 7H_2O$
35.	Fluorspar	Calcium fluoride	CaF_2
36.	Galena	Lead sulphide	PbS
37.	Glauber's salt	Hydrated sodium sulphate	$Na_2SO_4 \cdot 10H_2O$
38.	Grain alcohol	Ethyl alcohol or ethanol	C_2H_5OH
39.	Green Vitriol	Ferrous sulphate	$FeSO_4 \cdot 7H_2O$
40.	Gypsum	Calcium sulphate dihydrate	$CaSO_4 \cdot 2H_2O$
41.	Hydrolith	Calcium hydride	CaH_2
42.	Hypo	Sodium thiosulphate	$Na_2S_2O_3 \cdot 5H_2O$
43.	Iron pyrites	Iron disulphide	FeS_2
44.	Laughing gas	Dinitrogen oxide	N_2O
45.	Lime/quick lime	Calcium oxide	CaO
46.	Limonite	Hydrated ferric oxide	$Fe_2O_3 \cdot 3H_2O$
47.	Lime water or milk of lime	Calcium hydroxide solution	$Ca(OH)_2$
48.	Litharge	Lead monoxide	PbO

49. Lunar caustic	Silver nitrate	AgNO_3
50. Magnesia	Magnesium oxide	MgO
51. Magnesite	Magnesium carbonate	MgCO_3
52. Magnetite	Ferrosoferric oxide	Fe_3O_4
53. Malachite (green)	Basic copper carbonate	$\text{CuCO}_3 \cdot \text{Cu}(\text{OH})_2$
54. Marsh gas	Methane	CH_4
55. Milk of magnesia	Magnesium hydroxide	$\text{Mg}(\text{OH})_2$
56. Mohr's salt	Ferrous ammonium sulphate hexahydrate	$(\text{NH}_4)_2\text{SO}_4 \cdot \text{FeSO}_4 \cdot 6\text{H}_2\text{O}$
57. Muriatic acid	Hydrochloric acid	HCl
58. Nessler's reagent	Potassium tetra-iodomercurate	$\text{K}_2[\text{Hg I}_4]$
59. Nitre	Potassium nitrate	KNO_3
60. Nitre cake	Sodium hydrogen sulphate	NaHSO_4
61. Nitrolim	Calcium cyanamide plus carbon	$\text{CaCN}_2 + \text{C}$
62. Nitrate of lime (Nitrolime)	Basic calcium nitrate	$\text{Ca}(\text{NO}_3)_2 \cdot \text{CaO}$
63. Oil of Vitriol/King of chemicals	Concentrated Sulphuric acid	H_2SO_4
64. Oleum	Pyrosulphuric acid	$\text{H}_2\text{S}_2\text{O}_7$
65. Pearl ash/Potash	Potassium carbonate	K_2CO_3
66. Permutit/Zeolite	Sodium Aluminium Silicate	$\text{Na}_2\text{Al}_2\text{Si}_2\text{O}_8 \cdot x\text{H}_2\text{O}$
67. Philosopher's wool	Zinc oxide	ZnO
68. Phosgene	Carbonyl chloride	COCl_2
69. Potash alum	Potassium aluminium sulphate	$\text{K}_2\text{SO}_4 \cdot \text{Al}_2(\text{SO}_4)_3 \cdot 24\text{H}_2\text{O}$
70. Plaster of Paris	Hemihydrate of calcium sulphate	$\text{CaSO}_4 \cdot \frac{1}{2} \text{H}_2\text{O}$
71. Pyrogallol	Benzene-1, 2, 3-triol	$\text{C}_6\text{H}_3(\text{OH})_3$
72. Pyrolusite	Manganese dioxide	MnO_2
73. Quartz or silica or sand	Silicon dioxide	SiO_2
74. Quick silver	Mercury	Hg
75. Red lead	Triplumbic tetroxide	Pb_3O_4
76. Rock salt	Sodium chloride	NaCl
77. Rough	Ferric oxide	Fe_2O_3
78. Sal ammoniac	Solid ammonium chloride	NH_4Cl
79. Sal volatile/smelling salt	Solid ammonium carbonate	$(\text{NH}_4)_2\text{CO}_3$
80. Salt cake	Anhydrous sodium sulphate	Na_2SO_4
81. Salt petre	Potassium nitrate	KNO_3
82. Siderite	Ferrous carbonate	FeCO_3
83. Silica	Silicon dioxide	SiO_2
84. Silica gel	Hydrated silica	$\text{SiO}_2 \cdot x\text{H}_2\text{O}$
85. Soda ash	Anhydrous sodium carbonate	Na_2CO_3
86. Super phosphate of lime	Mixture of calcium dihydrogen phosphate and calcium sulphate	$\text{Ca}(\text{H}_2\text{PO}_4)_2 \cdot \text{H}_2\text{O} + 2\text{CaSO}_4 \cdot 2\text{H}_2\text{O}$
87. Verdigris	Basic copper acetate	$\text{Cu}(\text{CH}_3\text{COO})_2$
88. Vinegar/Acetic acid	Ethanoic acid	CH_3COOH
89. Washing soda	Hydrated sodium carbonate	$\text{Na}_2\text{CO}_3 \cdot 10\text{H}_2\text{O}$
90. Water glass	Sodium silicate	Na_2SiO_3
91. White lead	Basic lead carbonate	$2\text{PbCO}_3 \cdot \text{Pb}(\text{OH})_2$
92. White Vitriol	Heptahydrate of zinc sulphate	$\text{ZnSO}_4 \cdot 7\text{H}_2\text{O}$
93. Wood alcohol	Methyl alcohol or methanol	CH_3OH
94. Zinc blende	Zinc sulphide	ZnS
95. Zincite	Zinc oxide	ZnO

VALENCY OF SOME COMMON BASIC AND ACIDIC RADICALS

Electrovalent positive ions (basic radicals)

Monovalent		Divalent		Trivalent	
1. Ammonium	NH_4^+	1. Argentic [Silver(II)]	Ag^{2+}	1. Aluminium	Al^{3+}
2. Aurous [Gold (I)]	Au^+	2. Barium	Ba^{2+}	2. Ferric [Iron (III)]	Fe^{3+}
3. Cuprous [Copper (I)]	Cu^+	3. Calcium	Ca^{2+}	3. Chromium	Cr^{3+}
4. Hydrogen	H^+	4. Cupric [Copper(II)]	Cu^{2+}	4. Auric [Gold (III)]	Au^{3+}
5. Mercurous [Mercury (I)]	Hg^+	5. Ferrous [Iron (II)]	Fe^{2+}	5. Bismuth	Bi^{3+}
6. Potassium	K^+	6. Magnesium	Mg^{2+}	6. Arsenic	As^{3+}
7. Sodium	Na^+	7. Mercuric [Mercury (II)]	Hg^{2+}	Tetravalent	
8. Argentous [Silver (I)]	Ag^+	8. Plumbous [Lead (II)]	Pb^{2+}		
9. Lithium	Li^+	9. Stannous [Tin (II)]	Sn^{2+}		
		10. Zinc	Zn^{2+}		
		11. Platinous [Platinum (II)]	Pt^{2+}	1. Plumbic [Lead (IV)]	Pb^{4+}
		12. Nickel	Ni^{2+}	2. Stannic [Tin (IV)]	Sn^{4+}
				3. Platinic [Platinum (IV)]	Pt^{4+}

Electrovalent negative ions (acidic radicals)

Monovalent		Divalent		Trivalent	
1. Acetate	CH_3COO^-	1. Carbonate	CO_3^{2-}	1. Arsenate	AsO_4^{3-}
2. Bicarbonate or Hydrogen carbonate	HCO_3^-	2. Dichromate	$\text{Cr}_2\text{O}_7^{2-}$	2. Nitride	N^{3-}
3. Bisulphide or Hydrogen sulphide	HS^-	3. Oxide	O^{2-}	3. Arsenite	AsO_3^{3-}
4. Bisulphate or Hydrogen sulphate	HSO_4^-	4. Peroxide	O_2^{2-}	4. Phosphide	P^{3-}
5. Bisulphite or Hydrogen sulphite	HSO_3^-	5. Sulphate	SO_4^{2-}	5. Phosphite	PO_3^{3-}
6. Bromide	Br^-	6. Sulphite	SO_3^{2-}	6. Phosphate	PO_4^{3-}
7. Chloride	Cl^-	7. Sulphide	S^{2-}	7. Borate	BO_3^{3-}
8. Permanganate	MnO_4^-	8. Silicate	SiO_3^{2-}	8. Aluminate	AlO_3^{3-}
9. Fluoride	F^-	9. Thiosulphate	$\text{S}_2\text{O}_3^{2-}$	Tetravalent	
10. Hydride	H^-	10. Zincate	ZnO_2^{2-}		
11. Hydroxide	OH^-	11. Plumbite	PbO_2^{2-}	1. Carbide	C^{4-}
12. Iodide	I^-	12. Stannate	SnO_3^{2-}	2. Ferrocyanide	$\text{Fe}(\text{CN})_6^{4-}$
13. Cyanide	CN^-	13. Manganate	MnO_4^{2-}		
14. Nitrate	NO_3^-	14. Chromate	CrO_4^{2-}		
15. Nitrite	NO_2^-	15. Oxalate	$(\text{COO})_2^{2-}$		
16. Chlorite	ClO_2^-				
17. Hypochlorite	ClO^-				
18. Chlorate	ClO_3^-				
19. Perchlorate	ClO_4^-				
20. Meta aluminate	AlO_2^-				