Appendix B

Radionuclide and Chemical Nomenclature

Nomenclature and Half-Life for Radionuclides

Radionuclide	Symbol	Half-life[a,b]	Radionuclide	Symbol	Half-life[a,b]
Actinium-228	Ac-228	6.15 h	Mercury-203	Hg-203	46.61 d
Americium-241	Am-241	432.7 y	Neptunium-237	Np-237	2.14E6 y
Americium-243	Am-243	7370 y	Neptunium-239	Np-239	2.355 d
Antimony-124	Sb-124	60.2 d	Nickel-59	Ni-59	7.6E4 y
Antimony-125	Sb-125	2.758 y	Nickel-63	Ni-63	100 y
Argon-39	Ar-39	269 y	Niobium-94	Nb-94	2.0E4 y
Barium-133	Ba-133	10.7 y	Niobium-95	Nb-95	34.97 d
Beryllium-7	Be-7	53.28 d	Plutonium-238	Pu-238	87.7 y
Bismuth-212	Bi-212	2.14 m	Plutonium-239	Pu-239	2.41E4 y
Bismuth-214	Bi-214	19.9 m	Plutonium-240	Pu-240	6560 y
Carbon-14	C-14	5714 y	Plutonium-241	Pu-241	14.4 y
Cerium-141	Ce-141	32.5 d	Plutonium-242	Pu-242	3.75E5 y
Cerium-144	Ce-144	284.6 d	Potassium-40	K-40	1.27E9 y
Cesium-134	Cs-134	2.065 y	Praseodymium-144	Pr-144	17.28 m
Cesium-137	Cs-137	30.07 y	Praseodymium-144m	Pr-144m	7.2 m
Chromium-51	Cr-51	27.702 d	Promethium-147	Pm-147	2.6234 y
Cobalt-57	Co-57	271.8 d	Protactinium-231	Pa-231	3.28E4 y
Cobalt-58	Co-58	70.88 d	Protactinium-233	Pa-233	27.0 d
Cobalt-60	Co-60	5.271 y	Protactinium-234	Pa-234	6.69 h
Curium-242	Cm-242	162.8 d	Radium-226	Ra-226	1599 y
Curium-244	Cm-244	18.1 y	Radium-228	Ra-228	5.76 y
Curium-245	Cm-245	8.50E3 y	Ruthenium-103	Ru-103	39.27 d
Curium-246	Cm-246	4.76E3 y	Ruthenium-106	Ru-106	1.020 y
Europium-152	Eu-152	13.54 y	Selenium-75	Se-75	119.78 d
Europium-154	Eu-154	8.593 y	Selenium-79	Se-79	6.5E5 y
Europium-155	Eu-155	4.75 y	Sodium-22	Na-22	2.604 y
Iodine-129	I-129	1.57E7 y	Strontium-89	Sr-89	50.52 d
Iodine-131	I-131	8.0207 d	Strontium-90	Sr-90	28.78 y
Iodine-133	I-133	20.3 h	Technetium-99	Tc-99	2.13E5 y
Krypton-85	Kr-85	10.76 y	Thallium-208	Tl-208	3.053 m
Lead-212	Pb-212	10.64 h	Thorium-228	Th-228	1.913 y
Lead-214	Pb-214	27 m	Thorium-230	Th-230	7.54E4 y
Manganese-54	Mn-54	312.1 d	Thorium-232	Th-232	1.40E10 y

a m=minute; h = hour; d = day; y = year
b Reference: Chart of the Nuclides, 15th edition, revised 1996, General Electric Company

Nomenclature and Half-Life for Radionuclides, Continued

Radionuclide	Symbol	Half-life[a,b]	Radionuclide	Symbol	Half-life[a,b]
Thorium-234	Th-234	24.10 d	Uranium-235	U-235	7.04E8 y
Tin-113	Sn-113	115.1 d	Uranium-236	U-236	2.342E7 y
Tin-126	Sn-126	2.5E5 y	Uranium-238	U-238	4.47E9 y
Tritium (Hydrogen-3)	H-3	12.32 y	Xenon-135	Xe-135	9.10 h
Uranium-232	U-232	69.8 y	Zinc-65	Zn-65	243.8 d
Uranium-233	U-233	1.592E5 y	Zirconium-85	Zr-85	7.7 m
Uranium-234	U-234	2.46E5 y	Zirconium-95	Zr-95	64.02 d

a m=minute; h = hour; d = day; y = year
b Reference: Chart of the Nuclides, 15th edition, revised 1996, General Electric Company

Nomenclature for Elements and Chemical Constituent Analyses

Constituent	Symbol	Constituent	Symbol
Note:	*Some of the symbols listed in this table came from various databases used to format the data tables in this book and are included here to assist the reader in understanding the tables.*		
Aluminum	Al (or AL)	Nitrite, Nitrate	NO2,NO3 (or NO_2, NO_3 or NO2/NO3))
Ammonia	NH_3	pH	pH (or PH)
Ammonia as Nitrogen	NH_3–N (or AN)	Phenol	PHE
Antimony	Sb (or SB)	Phosphorus	P
Arsenic	As (or AS)	Phosphate	PO_4 (or PO4–P or PO_4–P)
Barium	Ba (or BA)	Polychlorinated Biphenyl	PCB
Biological Oxygen Demand	BOD	Potassium	K
Beryllium	Be	Selenium	Se (or SE)
Boron	B	Silver	Ag (or AG)
Bromide	B–	Sulfate	SO_4 (or SO4)
Cadmium	Cd (or CD)	Tetrachloroethene	PERCL
Chemical Oxygen Demand	COD	Tetrachloroethylene (Perchloroethylene)	PERCL
Chlorine	Cl (or CHL)	Trichloroethene	TRICL
Chromium	Cr (or CR)	Trichloroethylene	TRICL
Cobalt	Co	Tin	SN
Copper	Cu (or CU)	Total Dissolved Solids	TDS
Cyanide	CN	Total Kjeldahl Nitrogen	TKN
Dissolved Oxygen	DO	Total Organic Carbon	TOC
Iron	Fe (or FE)	Total Suspended Particulate Matter	TSP
Lead	Pb (or PB)	Total Suspended Solids	TSS
Magnesium	Mg (or MG)	Total Volatile Solids	TVS
Manganese	Mn (or MN)	Uranium	U
Mercury	Hg (or HG)	Vinyl Chloride	VC
Molybdenum	Mo	Zinc	Zn (or ZN)
Nickel	Ni (or NI)		
Nitrate	NO_3		
Nitrate as Nitrogen	NO_3–N		
Nitrite as Nitrogen	NO_2–N		