

## APPENDIX B

### TABULATED DATA

#### 1. INTRODUCTION

In order to use the following pages, information regarding their structure is necessary. Therefore, we note the following details. The intake retention fractions, IRFs, for a particular in vivo or in vitro bioassay compartment of interest are tabulated for various times. They are applicable for single inhalation intakes, see tables in Sections 2 through 4, and single ingestion intakes, see tables in Section 5. The IRFs include the decay factor radio-nuclides. The element name, the mass number, the halflife, lung-clearance classification, and particle size are printed at the beginning of each table. If the excretion pathway has been defined, the IRFs for urine and feces are given, otherwise the IRFs for systemic excreta and non-systemic excreta are given. All values of IRFs have three significant figures and are expressed in exponential notation; for example, 3.78E-02 is 0.0378. The time post intake is given in units of days and IRFs are listed if they are greater than 1.00E-08, otherwise 0.00E+00 is inserted into the table. In order to facilitate locating the table of interest, a page listing by atomic number is given in Section 1.1 for Class D inhalation, Section 1.2 for Class W inhalation, Section 1.3 for Class Y inhalation and Section 1.4 for ingestion. The page listing for biological and radiological parameters is given in Section 1.5. In the case of I-131, I-132 and I-133, additional tables of IRFs for the thyroid are given for inhalation and ingestion intakes. In the case of C-14 monoxide, C-14 dioxide and tritiated water, tables of IRFs are listed separately in Section 6. The biological and radiological parameters which were used as input for development of IRF tables are presented in Section 7. In certain circumstances, one may need to transform the IRF for use with a different particle size, and guidance is given in Section 8. In some instances, one may need to interpret measurements following protracted intakes, and guidance is given in Section 9. A bibliography is included in Section 10. Finally, an alphabetical index, which is based on element name, is given in Section 11 in order to facilitate access to the in vivo or in vitro intake retention fraction of interest.

**1.1    Class D Tables Listed by Atomic Number**

<u>ATOMIC NUMBER</u>	<u>ELEMENT</u>	<u>PAGE</u>
9	Fluorine.....	B-13
11	Sodium.....	B-14
12	Magnesium.....	B-16
13	Aluminum.....	B-18
14	Silicon.....	B-20
15	Phosphorus.....	B-22
16	Sulphur.....	B-26
17	Chlorine.....	B-30
19	Potassium.....	B-34
22	Titanium.....	B-38
23	Vanadium.....	B-40
24	Chromium.....	B-42
25	Manganese.....	B-46
26	Iron.....	B-50
28	Nickel.....	B-56
29	Copper.....	B-58
31	Gallium.....	B-60
32	Germanium.....	B-62
34	Selenium.....	B-64
35	Bromine.....	B-66
37	Rubidium.....	B-70
38	Strontium.....	B-72
40	Zirconium.....	B-78
42	Molybdenum.....	B-80
43	Technetium.....	B-82
44	Ruthenium.....	B-84
46	Palladium.....	B-86
47	Silver.....	B-88
48	Cadmium.....	B-90
49	Indium.....	B-92
50	Tin.....	B-93

<u>ATOMIC NUMBER</u>	<u>ELEMENT</u>	<u>PAGE</u>
52	Tellurium.....	B-95
53	Iodine.....	B-97
55	Cesium.....	B-109
56	Barium.....	B-113
57	Lanthanum.....	B-117
64	Gadolinium.....	B-121
72	Hafnium.....	B-123
74	Tungsten.....	B-127
75	Rhenium.....	B-129
76	Osmium.....	B-131
77	Iridium.....	B-133
78	Platinum.....	B-137
79	Gold.....	B-139
80	Mercury.....	B-141
81	Thallium.....	B-143
82	Lead.....	B-147
83	Bismuth.....	B-149
84	Polonium.....	B-151
85	Astatine.....	B-153
87	Francium.....	B-155
89	Actinium.....	B-156
92	Uranium.....	B-158

**1.2    Class W Tables Listed by Atomic Number**

<u>ATOMIC NUMBER</u>	<u>ELEMENT</u>	<u>PAGE</u>
4	Beryllium.....	B-165
9	Fluorine.....	B-167
12	Magnesium.....	B-168
13	Aluminum.....	B-170
14	Silicon.....	B-172
15	Phosphorus.....	B-174
16	Sulphur.....	B-178
17	Chlorine.....	B-182
20	Calcium.....	B-186
22	Titanium.....	B-192
23	Vanadium.....	B-194
24	Chromium.....	B-196
25	Manganese.....	B-200
26	Iron.....	B-204
27	Cobalt.....	B-208
28	Nickel.....	B-214
29	Copper.....	B-216
31	Gallium.....	B-218
33	Arsenic.....	B-220
34	Selenium.....	B-222
35	Bromine.....	B-224
39	Yttrium.....	B-228
40	Zirconium.....	B-232
41	Niobium.....	B-234
43	Technetium.....	B-238
44	Ruthenium.....	B-240
45	Rhodium.....	B-242
46	Palladium.....	B-244
47	Silver.....	B-246
48	Cadmium.....	B-248
49	Indium.....	B-250

<u>ATOMIC NUMBER</u>	<u>ELEMENT</u>	<u>PAGE</u>
50	Tin.....	B-251
52	Tellurium.....	B-253
57	Lanthanum.....	B-255
58	Cerium.....	B-259
59	Praseodymium.....	B-265
60	Neodymium.....	B-267
61	Promethium.....	B-269
62	Samarium.....	B-271
63	Europium.....	B-275
64	Gadolinium.....	B-281
65	Terbium.....	B-283
66	Dysprosium.....	B-285
67	Holmium.....	B-287
68	Erbium.....	B-289
69	Thulium.....	B-291
70	Ytterbium.....	B-293
71	Lutetium.....	B-295
72	Hafnium.....	B-297
73	Tantalum.....	B-301
75	Rhenium.....	B-305
77	Iridium.....	B-309
79	Gold.....	B-313
83	Bismuth.....	B-315
84	Polonium.....	B-317
85	Astatine.....	B-319
88	Radium.....	B-321
89	Actinium.....	B-325
90	Thorium.....	B-327
91	Protactinium.....	B-335
92	Uranium.....	B-337
93	Neptunium.....	B-343
94	Plutonium.....	B-345
95	Americium.....	B-353
96	Curium.....	B-357

**1.3 Class Y Tables Listed by Atomic Number**

<u>ATOMIC NUMBER</u>	<u>ELEMENT</u>	<u>PAGE</u>
4	Beryllium.....	B-360
9	Fluorine.....	B-362
14	Silicon.....	B-363
21	Scandium.....	B-365
22	Titanium.....	B-367
24	Chromium.....	B-369
27	Cobalt.....	B-373
29	Copper.....	B-379
30	Zinc.....	B-381
38	Strontium.....	B-385
39	Yttrium.....	B-391
40	Zirconium.....	B-393
41	Niobium.....	B-395
42	Molybdenum.....	B-399
44	Ruthenium.....	B-401
45	Rhodium.....	B-403
46	Palladium.....	B-405
47	Silver.....	B-407
48	Cadmium.....	B-409
58	Cerium.....	B-411
59	Praseodymium.....	B-417
60	Neodymium.....	B-419
61	Promethium.....	B-421
70	Ytterbium.....	B-423
71	Lutetium.....	B-425
73	Tantalum.....	B-427
76	Osmium.....	B-431
77	Iridium.....	B-433
79	Gold.....	B-437
89	Actinium.....	B-439
90	Thorium.....	B-441
91	Protactinium.....	B-449
92	Uranium.....	B-451
94	Plutonium.....	B-455
95	Americium.....	B-463

**1.4 Ingestion Tables Listed by Atomic Number**

<u>ATOMIC NUMBER</u>	<u>ELEMENT</u>	<u>PAGE</u>
4	Beryllium.....	B-468
9	Fluorine.....	B-472
11	Sodium.....	B-473
12	Magnesium.....	B-475
13	Aluminum.....	B-477
14	Silicon.....	B-479
15	Phosphorus.....	B-481
16	Sulphur.....	B-485
17	Chlorine.....	B-489
19	Potassium.....	B-493
20	Calcium.....	B-497
22	Titanium.....	B-503
23	Vanadium.....	B-505
24	Chromium.....	B-507
25	Manganese.....	B-511
26	Iron.....	B-515
27	Cobalt.....	B-521
28	Nickel.....	B-527
29	Copper.....	B-529
30	Zinc.....	B-531
31	Gallium.....	B-535
32	Germanium.....	B-537
33	Arsenic.....	B-539
34	Selenium.....	B-541
35	Bromine.....	B-543
37	Rubidium.....	B-547
38	Strontium.....	B-549
39	Yttrium.....	B-555
40	Zirconium.....	B-557
41	Niobium.....	B-559
42	Molybdenum.....	B-563
43	Technetium.....	B-565
44	Ruthenium.....	B-567
45	Rhodium.....	B-569
46	Palladium.....	B-571

<u>ATOMIC NUMBER</u>	<u>ELEMENT</u>	<u>PAGE</u>
47	Silver.....	B-573
48	Cadmium.....	B-575
50	Tin.....	B-577
52	Tellurium.....	B-579
53	Iodine.....	B-581
55	Cesium.....	B-590
56	Barium.....	B-594
57	Lanthanum.....	B-598
58	Cerium.....	B-602
59	Praseodymium.....	B-608
60	Neodymium.....	B-610
61	Promethium.....	B-612
62	Samarium.....	B-614
63	Europium.....	B-618
64	Gadolinium.....	B-624
65	Terbium.....	B-626
66	Dysprosium.....	B-628
67	Holmium.....	B-630
68	Erbium.....	B-632
70	Ytterbium.....	B-634
71	Lutetium.....	B-636
72	Hafnium.....	B-638
73	Tantalum.....	B-642
74	Tungsten.....	B-646
75	Rhenium.....	B-648
77	Iridium.....	B-652
78	Platinum.....	B-656
79	Gold.....	B-658
80	Mercury.....	B-660
81	Thallium.....	B-662
82	Lead.....	B-666
84	Polonium.....	B-668
88	Radium.....	B-670
89	Actinium.....	B-674
90	Thorium.....	B-676
91	Protactinium.....	B-684
92	Uranium.....	B-686
93	Neptunium.....	B-692
94	Plutonium.....	B-694
95	Americium.....	B-702
96	Curium.....	B-704

**1.5    Biological and Radiological Parameters Listed by Atomic Number**

<u>ATOMIC NUMBER</u>	<u>ELEMENT</u>	<u>PAGE</u>
1	Hydrogen.....	B-713
4	Beryllium.....	B-714
6	Carbon.....	B-715
9	Fluorine.....	B-717
11	Sodium.....	B-718
12	Magnesium.....	B-719
13	Aluminum.....	B-720
14	Silicon.....	B-721
15	Phosphorus.....	B-722
16	Sulphur.....	B-723
17	Chlorine.....	B-724
19	Potassium.....	B-725
20	Calcium.....	B-726
21	Scandium.....	B-727
22	Titanium.....	B-728
23	Vanadium.....	B-729
24	Chromium.....	B-730
25	Manganese.....	B-731
26	Iron.....	B-732
27	Cobalt.....	B-733
28	Nickel.....	B-734
29	Copper.....	B-735
30	Zinc.....	B-736
31	Gallium.....	B-737
32	Germanium.....	B-738
33	Arsenic.....	B-739
34	Selenium.....	B-740
35	Bromine.....	B-741
37	Rubidium.....	B-742
38	Strontium.....	B-743
39	Yttrium.....	B-744
40	Zirconium.....	B-745

<u>ATOMIC NUMBER</u>	<u>ELEMENT</u>	<u>PAGE</u>
41	Niobium.....	B-746
42	Molybdenum.....	B-747
43	Technetium.....	B-748
44	Ruthenium.....	B-749
45	Rhodium.....	B-750
46	Palladium.....	B-751
47	Silver.....	B-752
48	Cadmium.....	B-753
49	Indium.....	B-754
50	Tin.....	B-755
51	Antimony.....	B-756
52	Tellurium.....	B-757
53	Iodine.....	B-758
55	Cesium.....	B-759
56	Barium.....	B-760
57	Lanthanum.....	B-761
58	Cerium.....	B-762
59	Praseodymium.....	B-763
60	Neodymium.....	B-764
61	Promethium.....	B-765
62	Samarium.....	B-766
63	Europium.....	B-767
64	Gadolinium.....	B-768
65	Terbium.....	B-769
66	Dysprosium.....	B-770
67	Holmium.....	B-771
68	Erbium.....	B-772
69	Thulium.....	B-773
70	Ytterbium.....	B-774
71	Lutetium.....	B-775
72	Hafnium.....	B-776
73	Tantalum.....	B-777
74	Tungsten.....	B-778
75	Rhenium.....	B-779

<u>ATOMIC NUMBER</u>	<u>ELEMENT</u>	<u>PAGE</u>
76	Osmium.....	B-780
77	Iridium.....	B-781
78	Platinum.....	B-782
79	Gold.....	B-783
80	Mercury.....	B-784
81	Thallium.....	B-785
82	Lead.....	B-786
83	Bismuth.....	B-787
84	Polonium.....	B-788
85	Astatine.....	B-789
87	Francium.....	B-790
88	Radium.....	B-791
89	Actinium.....	B-792
90	Thorium.....	B-793
91	Protactinium.....	B-794
92	Uranium.....	B-795
93	Neptunium.....	B-796
94	Plutonium.....	B-797
95	Americium.....	B-798
96	Curium.....	B-799