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APPENDIX B

Exempt Quantities

Radioactive Material	Microcuries
Antimony−122 (Sb 122)	100
Antimony−124 (Sb 124)	10
Antimony−125 (Sb 125)	10
Arsenic−73 (As 73)	100
Arsenic−74 (As 74)	10
Arsenic−76 (As 76)	10
Arsenic−77 (As 77)	100
Barium−131 (Ba 131)	10
Barium−133 (Ba 133)	10
Barium−140 (Ba 140)	10
Bismuth−210 (Bi 210)	1
Bromine−82 (Br 82)	10
Cadmium−109 (Cd 109)	10
Cadmium−115m (Cd 115m)	10
Cadmium−115 (Cd 115)	100
Calcium−45 (Ca 45)	10
Calcium−47 (Ca 47)	10
Carbon−14 (C 14)	100
Cerium−141 (Ce 141)	100
Cerium−143 (Ce 143)	100
Cerium−144 (Ce 144)	1
Cesium−129 (Cs 129)	100
Cesium−131 (Cs 131)	1,000
Cesium−134m (Cs 134m)	100
Cesium−134 (Cs 134)	1
Cesium−135 (Cs 135)	10
Cesium−136 (Cs 136)	10
Cesium−137 (Cs 137)	10
Chlorine−36 (Cl 36)	10
Chlorine−38 (Cl 38)	10
Chromium−51 (Cr 51)	1,000
Cobalt−57 (Co 57)	100
Cobalt−58m (Co 58m)	10
Cobalt−58 (Co 58)	10
Cobalt−60 (Co 60)	1
Copper−64 (Cu 64)	100
Dysprosium−165 (Dy 165)	10
Dysprosium−166 (Dy 166)	100
Erbium−169 (Er 169)	100
Erbium−171 (Er 171)	100
Europium−152 (Eu 152)9.2h	100
Europium−152 (Eu 152)13 yr	1
Europium−154 (Eu 154)	1
Europium−155 (Eu 155)	10
Fluorine−18 (F 18)	1,000
Gadolinium−153 (Gd 153)	10
Gadolinium−159 (Gd 159)	100

Radioactive Material	Microcuries
Gallium−67 (Ga 67)	100
Gallium−72 (Ga 72)	10
Germanium−68 (Ge 68)	10
Germanium−71 (Ge 71)	100
Gold−195 (Au 195)	10
Gold−198 (Au 198)	100
Gold−199 (Au 199)	100
Hafnium−181 (Hf 181)	10
Holmium−166 (Ho 166)	100
Hydrogen−3 (H 3)	1,000
Indium−111 (In 111)	100
Indium−113m (In 113m)	100
Indium−114m (In 114m)	10
Indium−115m (In 115m)	100
Indium−115 (In 115)	10
Iodine−123 (I 123)	100
Iodine−125 (I 125)	1
Iodine−126 (I 126)	1
Iodine−129 (I 129)	0.1
Iodine−131 (I 131)	1
Iodine−132 (I 132)	10
Iodine−133 (I 133)	1
Iodine−134 (I 134)	10
Iodine−135 (I 135)	10
Iridium−192 (Ir 192)	10
Iridium−194 (Ir 194)	100
Iron−52 (Fe 52)	10
Iron−55 (Fe 55)	100
Iron−59 (Fe 59)	10
Krypton−85 (Kr 85)	100
Krypton−87 (Kr 87)	10
Lanthanum−140 (La 140)	10
Lutetium−177 (Lu 177)	100
Manganese−52 (Mn 52)	10
Manganese−54 (Mn 54)	10
Manganese−56 (Mn 56)	10
Mercury−197m (Hg 197m)	100
Mercury−197 (Hg 197)	100
Mercury−203 (Hg 203)	10
Molybdenum−99 (Mo 99)	100
Neodymium−147 (Nd 147)	100
Neodymium−149 (Nd 149)	100
Nickel−59 (Ni 59)	100
Nickel−63 (Ni 63)	10
Nickel−65 (Ni 65)	100
Niobium−93m (Nb 93m)	10
Niobium−95 (Nb 95)	10
Niobium−97 (Nb 97)	10

Radioactive Material	Microcuries
Osmium–185 (Os 185)	10
Osmium–191m (Os 191m)	100
Osmium–191 (Os 191)	100
Osmium–193 (Os 193)	100
Palladium–103 (Pd 103)	100
Palladium–109 (Pd 109)	100
Phosphorus–32 (P 32)	10
Platinum–191 (Pt 191)	100
Platinum–193m (Pt 193m)	100
Platinum–193 (Pt 193)	100
Platinum–197m (Pt 197m)	100
Platinum–197 (Pt 197)	100
Polonium–210 (Po 210)	0.1
Potassium–42 (K 42)	10
Potassium–43 (K 43)	10
Praseodymium–142 (Pr 142)	100
Praseodymium–143 (Pr 143)	100
Promethium–147 (Pm 147)	10
Promethium–149 (Pm 149)	10
Rhenium–186 (Re 186)	100
Rhenium–188 (Re 188)	100
Rhodium–103m (Rh 103m)	100
Rhodium–105 (Rh 105)	100
Rubidium–81 (Rb 81)	10
Rubidium–86 (Rb 86)	10
Rubidium–87 (Rb 87)	10
Ruthenium–97 (Ru 97)	100
Ruthenium–103 (Ru 103)	10
Ruthenium–105 (Ru 105)	10
Ruthenium–106 (Ru 106)	1
Samarium–151 (Sm 151)	10
Samarium–153 (Sm 153)	100
Scandium–46 (Sc 46)	10
Scandium–47 (Sc 47)	100
Scandium–48 (Sc 48)	10
Selenium–75 (Se 75)	10
Silicon–31 (Si 31)	100
Silver–105 (Ag 105)	10
Silver–110m (Ag 110m)	1
Silver–111 (Ag 111)	100
Sodium–22 (Na 22)	10
Sodium–24 (Na 24)	10
Strontium–85 (Sr 85)	10
Strontium–89 (Sr 89)	1
Strontium–90 (Sr 90)	0.1
Strontium–91 (Sr 91)	10
Strontium–92 (Sr 92)	10
Sulphur–35 (S 35)	100
Tantalum–182 (Ta 182)	10
Technetium–96 (Tc 96)	10
Technetium–97m (Tc 97m)	100
Technetium–97 (Tc 97)	100
Technetium–99m (Tc 99m)	100
Technetium–99 (Tc 99)	10
Tellurium–125m (Te 125m)	10
Tellurium–127m (Te 127m)	10
Tellurium–127 (Te 127)	100
Tellurium–129m (Te 129m)	10
Tellurium–129 (Te 129)	100
Tellurium–131m (Te 131m)	10
Tellurium–132 (Te 132)	10
Terbium–160 (Tb 160)	10
Thallium–200 (Tl 200)	100
Thallium–201 (Tl 201)	100
Thallium–202 (Tl 202)	100
Thallium–204 (Tl 204)	10
Thulium–170 (Tm 170)	10
Thulium–171 (Tm 171)	10
Tin–113 (Sn 113)	10
Tin–125 (Sn 125)	10
Tungsten–181 (W 181)	10
Tungsten–185 (W 185)	10
Tungsten–187 (W 187)	100
Vanadium–48 (V 48)	10
Xenon–131m (Xe 131m)	1,000
Xenon–133 (Xe 133)	100
Xenon–135 (Xe 135)	100
Ytterbium–175 (Yb 175)	100
Yttrium–87 (Y 87)	10
Yttrium–88 (Y 88)	10
Yttrium–90 (Y 90)	10
Yttrium–91 (Y 91)	10
Yttrium–92 (Y 92)	100
Yttrium–93 (Y 93)	100
Zinc–65 (Zn 65)	10
Zinc–69m (Zn 69m)	100
Zinc–69 (Zn 69)	1,000
Zirconium–93 (Zr 93)	10
Zirconium–95 (Zr 95)	10
Zirconium–97 (Zr 97)	10
Any radioactive material not listed above other than alpha–emitting radioactive material	0.1
Any alpha–emitting radioactive material not listed above other than transuranic radioactive material	0.01

Note 1: Where there is a combination of radionuclides, the limit for the combination should be derived as follows: Determine the amount of each radionuclide possessed and 1,000 times the amount in Appendix B for each of those radionuclides when not in combination. The sum of the ratios of those quantities may not exceed 1.

Example:

$$\frac{\text{Amt. of Radionuclide A possessed}}{\text{1000 x Appendix B quantity for Radionuclide A}} + \frac{\text{Amt. of Radionuclide B possessed}}{\text{1000 x Appendix B quantity for Radionuclide B}} \leq 1$$

Note 2: To convert microcuries (μCi) to SI units of kilobecquerels (kBq), multiply the above values by 37.

Example: Zirconium–97 (10 μCi multiplied by 37 is equivalent to 370 kBq).