

Appendix C: Exempt Quantities

Radionuclide	Microcuries	Radionuclide	Microcuries
Antimony-122 (Sb ¹²²)	100	Gadolinium-159 (Gd ¹⁵⁹)	100
Antimony-124 (Sb ¹²⁴)	10	Gallium-67 (Ga ⁶⁷)	100
Antimony-125 (Sb ¹²⁵)	10	Gallium-72 (Ga ⁷²)	10
Arsenic-73 (As ⁷³)	100	Germanium-71 (Ge ⁷¹)	100
Arsenic-74 (As ⁷⁴)	10	Gold-198 (Au ¹⁹⁸)	100
Arsenic-76 (As ⁷⁶)	10	Gold-199 (Au ¹⁹⁹)	100
Arsenic-77 (As ⁷⁷)	100	Hafnium-181 (Hf ¹⁹¹)	10
Barium-131 (Ba ¹³¹)	10	Holmium-166 (Ho ¹⁶⁶)	100
Barium-133 (Ba ¹³³)	10	Hydrogen-3 (H ³)	1,000
Barium-140 (Ba ¹⁴⁰)	10	Indium-111 (In ¹¹¹)	100
Beryllium-7 (Be ⁷)	100	Indium-113m (In ^{113m})	100
Bismuth-210 (Bi ²¹⁰)	1	Indium-114m (In ^{114m})	10
Bromine-82 (Br ⁸²)	10	Indium-115m (In ^{115m})	100
Cadmium-109 (Cd ¹⁰⁹)	10	Iodine-123 (I ¹²³)	100
Cadmium-115m (Cd ^{115m})	10	Iodine-125 (I ¹²⁵)	1
Cadmium-115 (Cd ¹¹⁵)	100	Iodine-126 (I ¹²⁶)	1
Calcium-45 (Ca ⁴⁵)	10	Iodine-129 (I ¹²⁹)	0.1
Calcium-47 (Ca ⁴⁷)	10	Iodine-131 (I ¹³¹)	1
Carbon-14 (C ¹⁴)	100	Iodine-132 (I ¹³²)	10
Cerium-141 (Ce ¹⁴¹)	100	Iodine-133 (I ¹³³)	1
Cerium-143 (Ce ¹⁴³)	100	Iodine-134 (I ¹³⁴)	10
Cerium-144 (Ce ¹⁴⁴)	1	Iodine-135 (I ¹³⁵)	10
Cesium-129 (Cs ¹²⁹)	100	Iridium-192 (Ir ¹⁹²)	10
Cesium-131 (Cs ¹³¹)	1,000	Iridium-194 (Ir ¹⁹⁴)	100
Cesium-134m (Cs ^{134m})	100	Iron-52 (Fe ⁵²)	10
Cesium-134 (Cs ¹³⁴)	1	Iron-55 (Fe ⁵⁵)	100
Cesium-135 (Cs ¹³⁵)	10	Iron-59 (Fe ⁵⁹)	10
Cesium-136 (Cs ¹³⁶)	10	Krypton-85 (Kr ⁸⁵)	100
Cesium-137 (Cs ¹³⁷)	10	Krypton-87 (Kr ⁸⁷)	10
Chlorine-36 (Cl ³⁶)	10	Lanthanum-140 (La ¹⁴⁰)	10
Chlorine-38 (Cl ³⁸)	10	Lead-210 (Pb ²¹⁰)	0.1
Chromium-51 (Cr ⁵¹)	1,000	Lutetium-177 (Lu ¹⁷⁷)	100
Cobalt-57 (Co ⁵⁷)	100	Manganese-52 (Mn ⁵²)	10
Cobalt-58m (Co ^{58m})	10	Manganese-54 (Mn ⁵⁴)	10
Cobalt-58 (Co ⁵⁸)	10	Manganese-56 (Mn ⁵⁶)	10
Cobalt-60 (Co ⁶⁰)	1	Mercury-197m (Hg ^{197m})	100
Copper-64 (Cu ⁶⁴)	100	Mercury-197 (Hg ¹⁹⁷)	100
Dysprosium-165 (Dy ¹⁶⁵)	10	Mercury-203 (Hg ²⁰³)	10
Dysprosium-166 (Dy ¹⁶⁶)	100	Molybdenum-99 (Mo ⁹⁹)	100
Erbium-169 (Er ¹⁶⁹)	100	Neodymium-147 (Nd ¹⁴⁷)	100
Erbium-171 (Er ¹⁷¹)	100	Neodymium-149 (Nd ¹⁴⁹)	100
Europium-152 9.2h (Eu ¹⁵²)9.2h	100	Nickel-59 (Ni ⁵⁹)	100
Europium-152 13yr (Eu ¹⁵²) 13yr	1	Nickel-63 (Ni ⁶³)	10
Europium-154 (Eu ¹⁵⁴)	1	Nickel-65 (Ni ⁶⁵)	100
Europium-155 (Eu ¹⁵⁵)	10	Niobium-93m (Nb ^{93m})	10
Fluorine-18 (F ¹⁸)	1,000	Niobium-95 (Nb ⁹⁵)	10
Gadolinium-153 (Gd ¹⁵³)	10	Niobium-97 (Nb ⁹⁷)	10

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Radionuclide	Microcurie	Radionuclide	Microcurie
Osmium-185 (Os ¹⁸⁵)	10	Sulpher-35 (S ³⁵)	100
Osmium-191m (Os ^{191m})	100	Tantalum-182 (Ta ¹⁸²)	10
Osmium-191 (Os ¹⁹¹)	100	Technetium-96 (Tc ⁹⁶)	10
Osmium-193 (Os ¹⁹³)	100	Technetium-97m (Tc ^{97m})	100
Palladium-103 (Pd ¹⁰³)	100	Technetium-97 (Tc ⁹⁷)	100
Palladium-109 (Pd ¹⁰⁹)	100	Technetium-99m (Tc ^{99m})	100
Phosphorous-32 (P ³²)	10	Technetium-99 (Tc ⁹⁹)	10
Platinum-191 (Pt ¹⁹¹)	100	Tellurium-125m (Te ^{125m})	10
Platinum-193m (Pt ^{193m})	100	Tellurium-127m (Te ^{127m})	10
Platinum-193 (Pt ¹⁹³)	100	Tellurium-127 (Te ¹²⁷)	100
Platinum-197m (Pt ^{197m})	100	Tellurium-129m (Te ^{129m})	10
Platinum-197 (Pt ¹⁹⁷)	100	Tellurium-129 (Te ¹²⁹)	100
Polonium-210 (Po ²¹⁰)	0.1	Tellurium-131m (Te ^{131m})	10
Potassium-42 (K ⁴²)	10	Tellurium-132 (Te ¹³²)	10
Potassium-43 (K ⁴³)	10	Terbium-160 (Tb ¹⁶⁰)	10
Praseodymium-142 (Pr ¹⁴²)	100	Thallium-200 (Tl ²⁰⁰)	100
Praseodymium-143 (Pr ¹⁴³)	100	Thallium-201 (Tl ²⁰¹)	100
Promethium-147 (Pm ¹⁴⁷)	10	Thallium-204 (Tl ²⁰⁴)	10
Promethium-149 (Pm ¹⁴⁹)	10	Thulium-170 (Tm ¹⁷⁰)	10
Rhenium-186 (Re ¹⁸⁶)	100	Thulium-171 (Tm ¹⁷¹)	10
Rhenium-188 (Re ¹⁸⁸)	100	Tin-113 (Sn ¹¹³)	10
Rhodium-103m (Rh ^{103m})	100	Tin-125 (Sn ¹²⁵)	10
Rhodium-105 (Rh ¹⁰⁵)	100	Tungsten-181 (W ¹⁸¹)	10
Rubidium-81 (Rb ⁸¹)	10	Tungsten-185 (W ¹⁸⁵)	10
Rubidium-86 (Rb ⁸⁶)	10	Tungsten-187 (W ¹⁸⁷)	100
Rubidium-87 (Rb ⁸⁷)	10	Vanadium-148 (V ¹⁴⁸)	10
Ruthenium-97 (Ru ⁹⁷)	100	Xenon-131m (Xe ^{131m})	1,000
Ruthenium-103 (Ru ¹⁰³)	10	Xenon-133 (Xe ¹³³)	100
Ruthenium-105 (Ru ¹⁰⁵)	10	Xenon-135 (Xe ¹³⁵)	100
Ruthenium-106 (Ru ¹⁰⁶)	1	Ytterbium-175 (Yb ¹⁷⁵)	100
Samarium-151 (Sm ¹⁵¹)	10	Yttrium-87 (Y ⁸⁷)	10
Samarium-153 (Sm ¹⁵³)	100	Yttrium-90 (Y ⁹⁰)	10
Scandium-46 (Sc ⁴⁶)	10	Yttrium-91 (Y ⁹¹)	10
Scandium-47 (Sc ⁴⁷)	100	Yttrium-92 (Y ⁹²)	100
Scandium-48 (Sc ⁴⁸)	10	Yttrium-93 (Y ⁹³)	100
Selenium-75 (Se ⁷⁵)	10	Zinc-65 (Zn ⁶⁵)	10
Silicon-31 (Si ³¹)	100	Zinc-69m (Zn ^{69m})	100
Silver-105 (Ag ¹⁰⁵)	10	Zinc-69 (Zn ⁶⁹)	1,000
Silver-110m (Ag ^{110m})	1	Zirconium-93 (Zr ⁹³)	10
Silver-111 (Ag ¹¹¹)	100	Zirconium-95 (Zr ⁹⁵)	10
Sodium-22 (Na ²²)	1	Zirconium-97 (Zr ⁹⁷)	10
Sodium-24 (Na ²⁴)	10	Any radionuclide not listed	
Strontium-85 (Sr ⁸⁵)	10	except alpha	0.1
Strontium-89 (Sr ⁸⁹)	1		
Strontium-90 (Sr ⁹⁰)	0.1		
Strontium-91 (Sr ⁹¹)	10		
Strontium-92 (Sr ⁹²)	10		