

Chapter DHS 157

APPENDIX B

Exempt Quantities

| Radioactive Material | Microcuries | Radioactive Material | Microcuries |
|----------------------------|-------------|------------------------|-------------|
| Antimony-122 (Sb 122) | 100 | Gallium-67 (Ga 67) | 100 |
| Antimony-124 (Sb 124) | 10 | Gallium-72 (Ga 72) | 10 |
| Antimony-125 (Sb 125) | 10 | Germanium-68 (Ge 68) | 10 |
| Arsenic-73 (As 73) | 100 | Germanium-71 (Ge 71) | 100 |
| Arsenic-74 (As 74) | 10 | Gold-195 (Au 195) | 10 |
| Arsenic-76 (As 76) | 10 | Gold-198 (Au 198) | 100 |
| Arsenic-77 (As 77) | 100 | Gold-199 (Au 199) | 100 |
| Barium-131 (Ba 131) | 10 | Hafnium-181 (Hf 181) | 10 |
| Barium-133 (Ba 133) | 10 | Holmium-166 (Ho 166) | 100 |
| Barium-140 (Ba 140) | 10 | Hydrogen-3 (H 3) | 1,000 |
| Bismuth-210 (Bi 210) | 1 | Indium-111 (In 111) | 100 |
| Bromine-82 (Br 82) | 10 | Indium-113m (In 113m) | 100 |
| Cadmium-109 (Cd 109) | 10 | Indium-114m (In 114m) | 10 |
| Cadmium-115m (Cd 115m) | 10 | Indium-115m (In 115m) | 100 |
| Cadmium-115 (Cd 115) | 100 | Indium-115 (In 115) | 10 |
| Calcium-45 (Ca 45) | 10 | Iodine-123 (I 123) | 100 |
| Calcium-47 (Ca 47) | 10 | Iodine-125 (I 125) | 1 |
| Carbon-14 (C 14) | 100 | Iodine-126 (I 126) | 1 |
| Cerium-141 (Ce 141) | 100 | Iodine-129 (I 129) | 0.1 |
| Cerium-143 (Ce 143) | 100 | Iodine-131 (I 131) | 1 |
| Cerium-144 (Ce 144) | 1 | Iodine-132 (I 132) | 10 |
| Cesium-129 (Cs 129) | 100 | Iodine-133 (I 133) | 1 |
| Cesium-131 (Cs 131) | 1,000 | Iodine-134 (I 134) | 10 |
| Cesium-134m (Cs 134m) | 100 | Iodine-135 (I 135) | 10 |
| Cesium-134 (Cs 134) | 1 | Iridium-192 (Ir 192) | 10 |
| Cesium-135 (Cs 135) | 10 | Iridium-194 (Ir 194) | 100 |
| Cesium-136 (Cs 136) | 10 | Iron-52 (Fe 52) | 10 |
| Cesium-137 (Cs 137) | 10 | Iron-55 (Fe 55) | 100 |
| Chlorine-36 (Cl 36) | 10 | Iron-59 (Fe 59) | 10 |
| Chlorine-38 (Cl 38) | 10 | Krypton-85 (Kr 85) | 100 |
| Chromium-51 (Cr 51) | 1,000 | Krypton-87 (Kr 87) | 10 |
| Cobalt-57 (Co 57) | 100 | Lanthanum-140 (La 140) | 10 |
| Cobalt-58m (Co 58m) | 10 | Lutetium-177 (Lu 177) | 100 |
| Cobalt-58 (Co 58) | 10 | Manganese-52 (Mn 52) | 10 |
| Cobalt-60 (Co 60) | 1 | Manganese-54 (Mn 54) | 10 |
| Copper-64 (Cu 64) | 100 | Manganese-56 (Mn 56) | 10 |
| Dysprosium-165 (Dy 165) | 10 | Mercury-197m (Hg 197m) | 100 |
| Dysprosium-166 (Dy 166) | 100 | Mercury-197 (Hg 197) | 100 |
| Erbium-169 (Er 169) | 100 | Mercury-203 (Hg 203) | 10 |
| Erbium-171 (Er 171) | 100 | Molybdenum-99 (Mo 99) | 100 |
| Europium-152 (Eu 152)9.2h | 100 | Neodymium-147 (Nd 147) | 100 |
| Europium-152 (Eu 152)13 yr | 1 | Neodymium-149 (Nd 149) | 100 |
| Europium-154 (Eu 154) | 1 | Nickel-59 (Ni 59) | 100 |
| Europium-155 (Eu 155) | 10 | Nickel-63 (Ni 63) | 10 |
| Fluorine-18 (F 18) | 1,000 | Nickel-65 (Ni 65) | 100 |
| Gadolinium-153 (Gd 153) | 10 | Niobium-93m (Nb 93m) | 10 |
| Gadolinium-159 (Gd 159) | 100 | Niobium-95 (Nb 95) | 10 |
| | | Niobium-97 (Nb 97) | 10 |

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

Note 1:

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).