

DRAFT 2 06/02/14

absorption) . (e)							
U-234 . (slow . lung absorption) . (f)		4.0X10 ¹	1.1X10 ³	6.0X10 ⁻³	1.6X10 ⁻¹	2.3X10 ⁻⁴	6.2X10 ⁻³
U-235 . (all . lung . absorption . types) . (a),(d),(e),(f)		Unlimite d	Unlimite d	Unlimite d	Unlimite d	8.0X10 ⁻⁸	2.2X10 ⁻⁶
U-236 . (fast . lung . absorption) . (d)		Unlimite d	Unlimite d	Unlimite d	Unlimite d	2.4X10 ⁻⁶	6.5X10 ⁻⁵
U-236 . (medium . lung . absorption) . (e)		4.0X10 ¹	1.1X10 ³	2.0X10 ⁻²	5.4X10 ⁻¹	2.4X10 ⁻⁶	6.5X10 ⁻⁵
U-236 . (slow . lung absorption) . (f)		4.0X10 ¹	1.1X10 ³	6.0X10 ⁻³	1.6X10 ⁻¹	2.4X10 ⁻⁶	6.5X10 ⁻⁵
U-238 . (all . lung . absorption . types) . (d),(e),(f)		Unlimite d	Unlimite d	Unlimite d	Unlimite d	1.2X10 ⁻⁸	3.4X10 ⁻⁷
U . (nat)		Unlimite d	Unlimite d	Unlimite d	Unlimite d	2.6X10 ⁻⁸	7.1X10 ⁻⁷
U . (enriched . to . 20% . or . less) . (g)		Unlimite d	Unlimite d	Unlimite d	Unlimite d	See . Table . 17A-4	See . Table . 17A-4
U . (dep)		Unlimite d	Unlimite d	Unlimite d	Unlimite d	See . Table . 17A-4	(See . Table . 17A-3)
V-48	Vanadium . (23)	4.0X10 ⁻¹	1.1X10 ¹	4.0X10 ⁻¹	1.1X10 ¹	6.3X10 ³	1.7X10 ⁵
V-49		4.0X10 ¹	1.1X10 ³	4.0X10 ¹	1.1X10 ³	3.0X10 ²	8.1X10 ³
W-178 . (a)	Tungsten . (74)	9.0	2.4X10 ²	5.0	1.4X10 ²	1.3X10 ³	3.4X10 ⁴
W-181		3.0X10 ¹	8.1X10 ²	3.0X10 ¹	8.1X10 ²	2.2X10 ²	6.0X10 ³
W-185		4.0X10 ¹	1.1X10 ³	8.0X10 ⁻¹	2.2X10 ¹	3.5X10 ²	9.4X10 ³
W-187		2.0	5.4X10 ¹	6.0X10 ⁻¹	1.6X10 ¹	2.6X10 ⁴	7.0X10 ⁵
W-188 . (a)		4.0X10 ⁻¹	1.1X10 ¹	3.0X10 ⁻¹	8.1	3.7X10 ²	1.0X10 ⁴
Xe-122 .	Xenon . (54)	4.0X10 ⁻¹	1.1X10 ¹	4.0X10 ⁻¹	1.1X10 ¹	4.8X10	1.3X10

Comment [JJ23]: Correction of reference to appropriate table.

Comment [JJ24]: Correction of reference to appropriate table.

PUBLICATION INSTRUCTIONS FOR 6 CCR 1007-1
 PART 17, "TRANSPORTATION OF RADIOACTIVE MATERIALS"

absorption) (d)							
U-236 (medium lung absorption) (e)	.	4.0×10^{-1}	1.1×10^{-3}	2.0×10^{-2}	5.4×10^{-1}	2.4×10^{-6}	6.5×10^{-5}
U-236 (slow lung absorption) (f)	.	4.0×10^{-1}	1.1×10^{-3}	6.0×10^{-3}	1.6×10^{-1}	2.4×10^{-6}	6.5×10^{-5}
U-238 (all lung absorption types) (d),(e),(f)	.	Unlimited	Unlimited	Unlimited	Unlimited	1.2×10^{-8}	3.4×10^{-7}
U (nat)	.	Unlimited	Unlimited	Unlimited	Unlimited	2.6×10^{-8}	7.1×10^{-7}
U (enriched to 20% or less) (g)	.	Unlimited	Unlimited	Unlimited	Unlimited	See Table 17A	See Table 17A4
U (dep)	.	Unlimited	Unlimited	Unlimited	Unlimited	See Table 17A4	(See Table 17A3)
V-48	Vanadium (23)	4.0×10^{-1}	1.1×10^{-1}	4.0×10^{-1}	1.1×10^{-1}	6.3×10^{-3}	1.7×10^{-5}
V-49	.	4.0×10^{-1}	1.1×10^{-3}	4.0×10^{-1}	1.1×10^{-3}	3.0×10^{-2}	8.1×10^{-3}
W-178 (a)	Tungsten (74)	9.0	2.4×10^{-2}	5.0	1.4×10^{-2}	1.3×10^{-3}	3.4×10^{-4}
W-181	.	3.0×10^{-1}	8.1×10^{-2}	3.0×10^{-1}	8.1×10^{-2}	2.2×10^{-2}	6.0×10^{-3}
W-185	.	4.0×10^{-1}	1.1×10^{-3}	8.0×10^{-1}	2.2×10^{-1}	3.5×10^{-2}	9.4×10^{-3}

CODE OF COLORADO REGULATIONS
Hazardous Materials and Waste Management Division

6 CCR 1007-1 Part 17

Symbol of radionuclide	Element and atomic number	A ₁ (TBq)	A ₁ (Ci) ^b	A ₂ (TBq)	A ₂ (Ci) ^b	Specific activity	Specific activity
						(TBq/g)	(Ci/g)
U. (nat)	.	Unlimited	Unlimited	Unlimited	Unlimited	2.6X10 ⁻⁸	7.1X10 ⁻⁷
U. (enriched to 20% or less). (g)	.	Unlimited	Unlimited	Unlimited	Unlimited	See Table. A-4	See Table. A-4
U. (dep)	.	Unlimited	Unlimited	Unlimited	Unlimited	See Table. A-4	(See Table. A-3)
V-48	Vanadium. (23)	4.0X10 ⁻¹	1.1X10 ¹	4.0X10 ⁻¹	1.1X10 ¹	6.3X10 ³	1.7X10 ⁵
V-49	.	4.0X10 ¹	1.1X10 ³	4.0X10 ¹	1.1X10 ³	3.0X10 ²	8.1X10 ³
W-178. (a)	Tungsten. (74)	9.0	2.4X10 ²	5.0	1.4X10 ²	1.3X10 ³	3.4X10 ⁴
W-181	.	3.0X10 ¹	8.1X10 ²	3.0X10 ¹	8.1X10 ²	2.2X10 ²	6.0X10 ³
W-185	.	4.0X10 ¹	1.1X10 ³	8.0X10 ⁻¹	2.2X10 ¹	3.5X10 ²	9.4X10 ³
W-187	.	2.0	5.4X10 ¹	6.0X10 ⁻¹	1.6X10 ¹	2.6X10 ⁴	7.0X10 ⁵
W-188. (a)	.	4.0X10 ⁻¹	1.1X10 ¹	3.0X10 ⁻¹	8.1	3.7X10 ²	1.0X10 ⁴
Xe-122. (a)	Xenon. (54)	4.0X10 ⁻¹	1.1X10 ¹	4.0X10 ⁻¹	1.1X10 ¹	4.8X10 ⁴	1.3X10 ⁶
Xe-123	.	2.0	5.4X10 ¹	7.0X10 ⁻¹	1.9X10 ¹	4.4X10 ⁵	1.2X10 ⁷
Xe-127	.	4.0	1.1X10 ²	2.0	5.4X10 ¹	1.0X10 ³	2.8X10 ⁴
Xe-131m	.	4.0X10 ¹	1.1X10 ³	4.0X10 ¹	1.1X10 ³	3.1X10 ³	8.4X10 ⁴
Xe-133	.	2.0X10 ¹	5.4X10 ²	1.0X10 ¹	2.7X10 ²	6.9X10 ³	1.9X10 ⁵
Xe-135	.	3.0	8.1X10 ¹	2.0	5.4X10 ¹	9.5X10 ⁴	2.6X10 ⁶
Y-87. (a)	Yttrium. (39)	1.0	2.7X10 ¹	1.0	2.7X10 ¹	1.7X10 ⁴	4.5X10 ⁵
Y-88	.	4.0X10 ⁻¹	1.1X10 ¹	4.0X10 ⁻¹	1.1X10 ¹	5.2X10 ²	1.4X10 ⁴
Y-90	.	3.0X10 ⁻¹	8.1	3.0X10 ⁻¹	8.1	2.0X10 ⁴	5.4X10 ⁵
Y-91	.	6.0X10 ⁻¹	1.6X10 ¹	6.0X10 ⁻¹	1.6X10 ¹	9.1X10 ²	2.5X10 ⁴
Y-91m	.	2.0	5.4X10 ¹	2.0	5.4X10 ¹	1.5X10 ⁶	4.2X10 ⁷
Y-92	.	2.0X10 ⁻¹	5.4	2.0X10 ⁻¹	5.4	3.6X10 ⁵	9.6X10 ⁶
Y-93	.	3.0X10 ⁻¹	8.1	3.0X10 ⁻¹	8.1	1.2X10 ⁵	3.3X10 ⁶
Yb-169	Ytterbium. (70)	4.0	1.1X10 ²	1.0	2.7X10 ¹	8.9X10 ²	2.4X10 ⁴
Zn-65	Zinc. (30)	2.0	5.4X10 ¹	2.0	5.4X10 ¹	3.0X10 ²	8.2X10 ³
Zn-69	.	3.0	8.1X10 ¹	6.0X10 ⁻¹	1.6X10 ¹	1.8X10 ⁶	4.9X10 ⁷
Zn-69m. (a)	.	3.0	8.1X10 ¹	6.0X10 ⁻¹	1.6X10 ¹	1.2X10 ⁵	3.3X10 ⁶
Zr-88	Zirconium. (40)	3.0	8.1X10 ¹	3.0	8.1X10 ¹	6.6X10 ²	1.8X10 ⁴
Zr-93	.	Unlimited	Unlimited	Unlimited	Unlimited	9.3X10 ⁻⁵	2.5X10 ⁻³
Zr-95. (a)	.	2.0	5.4X10 ¹	8.0X10 ⁻¹	2.2X10 ¹	7.9X10 ²	2.1X10 ⁴
Zr-97. (a)	.	4.0X10 ⁻¹	1.1X10 ¹	4.0X10 ⁻¹	1.1X10 ¹	7.1X10 ⁴	1.9X10 ⁶

Notes:

- a A1 and/or A2 values include contributions from daughter nuclides with half-lives less than 10 days.
- b The values of A₁ and A₂ in Curies (Ci) are approximate and for information only; the regulatory standard units are Terabecquerels (TBq) (see Appendix 17A – Determination of A₁ and A₂, Section 17A1)