

§336.365. Appendix H. Radionuclide Concentration and Annual Activity Limits for Disposal in a Type I Municipal Solid Waste Facility or a Hazardous Waste Facility.

Radionuclide Concentration and Annual Activity Limits
for Disposal in a Type I Municipal Solid Waste
Facility or a Hazardous Waste Facility
(For use in §336.225 of this title (relating
to Disposal of Specific Wastes))

Radionuclide	Concentration Limit (curies/m ³)	Annual Generator Disposal Limit (curies/yr)
Fluorine-18	3×10^{-1}	8
Sodium-24	9×10^{-4}	2×10^{-2}
Silicon-31	$1 \times 10^{+2}$	$3 \times 10^{+3}$
Phosphorus-32	2	50
Phosphorus-33	10	$3 \times 10^{+2}$
Sulfur-35	9	$2 \times 10^{+2}$
Argon-41	3×10^{-1}	8
Potassium-42	2×10^{-2}	5×10^{-1}
Calcium-45	4	$1 \times 10^{+2}$
Calcium-47	2×10^{-2}	5×10^{-1}
Scandium-46	2×10^{-3}	5×10^{-2}
Chromium-51	6×10^{-1}	20
Iron-59	5×10^{-3}	1×10^{-1}
Cobalt-57	6×10^{-2}	2
Cobalt-58	1×10^{-2}	3×10^{-1}
Zinc-65	7×10^{-3}	2×10^{-1}
Gallium-67	3×10^{-1}	8
Selenium-75	5×10^{-2}	1
Bromine-82	2×10^{-3}	5×10^{-2}
Rubidium-86	4×10^{-2}	1
Strontium-85	2×10^{-2}	5×10^{-1}
Strontium-89	8	$2 \times 10^{+2}$
Yttrium-90	4	$1 \times 10^{+2}$
Yttrium-91	4×10^{-1}	10
Zirconium-95	8×10^{-3}	2×10^{-1}
Niobium-95	8×10^{-3}	2×10^{-1}
Molybdenum-99	5×10^{-2}	1
Technetium-99m	1	30
Rhodium-106	1	30
Silver-110m	2×10^{-3}	5×10^{-2}
Cadmium-115m	2×10^{-1}	5

Indium-111	9 x 10	2
Indium-113m	9	2 x 10 ⁺²
Tin-113	6 x 10 ⁻²	2
Tin-119	20	5 x 10 ⁺²

Radionuclide	Concentration Limit (curies/m ³)	Annual Generator Disposal Limit (curies/yr)
Antimony-124	2 x 10 ⁻³	5 x 10 ⁻²
Iodine-123	4 x 10 ⁻¹	10
Iodine-125	7 x 10 ⁻¹	20
Iodine-131	4 x 10 ⁻²	1
Iodine-133	2 x 10 ⁻²	5 x 10 ⁻¹
Tellurium-129	2 x 10 ⁻¹	5
Xenon-127	8 x 10 ⁻²	2
Xenon-133	1	30
Barium-140	2 x 10 ⁻³	5 x 10 ⁻²
Lanthanum-140	2 x 10 ⁻³	5 x 10 ⁻²
Cerium-141	4 x 10 ⁻¹	10
Cerium-144	1 x 10 ⁻³	3 x 10 ⁻²
Praseodymium-143	6	2 x 10 ⁺²
Neodymium-147	7 x 10 ⁻²	2
Ytterbium-169	6 x 10 ⁻²	2
Iridium-192	1 x 10 ⁻²	3 x 10 ⁻¹
Gold-198	3 x 10 ⁻²	8 x 10 ⁻¹
Mercury-197	8 x 10 ⁻¹	20
Thallium-201	4 x 10 ⁻¹	10
Mercury-203	1 x 10 ⁻¹	3

Note

In the case of a waste that contains a mixture of radionuclides, the limiting values for purposes of this appendix shall be determined as follows:

For each radionuclide in the mixture, calculate the ratio between the quantity present in the mixture and the limit established in this appendix for the specific radionuclide when not in a mixture. The sum of such ratios for all the radionuclides in the mixture may not exceed 1.

Examples: If the concentrations of radionuclides a, b, and c in the waste are represented by C_a, C_b, and C_c and the applicable concentration limits are CL_a, CL_b, and CL_c, respectively, then the concentrations shall be limited so that the following relationship exists:

$$(C_a/CL_a) + (C_b/CL_b) + (C_c/CL_c) \boxed{\text{?}} 1$$

If the total curies for radionuclides a, b, and c are represented by A_a , A_b , and A_c and the annual curie limits are AL_a , AL_b , and AL_c , respectfully, then the generator is limited to the following:

$$(A_a/AL_a) + (A_b/AL_b) + (A_c/AL_c) \boxed{\text{?}} 1$$