

Vedlegg om unntaksgrenser, jf. § 2 femte og sjette ledd

<i>Nuklide</i>	<i>Mengde Bq</i>	<i>Konsentrasjon Bq/ g</i>	<i>Nuklide</i>	<i>Mengde Bq</i>	<i>Konsentrasjon Bq/ g</i>
H-3	10 ⁹	10 ⁶	Co-56	10 ⁵	10 ¹
Be-7	10 ⁷	10 ³	Co-57	10 ⁶	10 ²
Be-10	10 ⁶	10 ⁴	Co-58	10 ⁶	10 ¹
C-11	10 ⁶	10 ¹	Co-58m	10 ⁷	10 ⁴
C-14	10 ⁷	10 ⁴	Co-60	10 ⁵	10 ¹
N-13	10 ⁹	10 ²	Co-60m	10 ⁶	10 ³
O-15	10 ⁹	10 ²	Co-61	10 ⁶	10 ²
F-18	10 ⁶	10 ¹	Co-62m	10 ⁵	10 ¹
Na-22	10 ⁶	10 ¹	Ni-59	10 ⁸	10 ⁴
Na-24	10 ⁵	10 ¹	Ni-63	10 ⁸	10 ⁵
Mg-28	10 ⁵	10 ¹	Ni-65	10 ⁶	10 ¹
Al-26	10 ⁵	10 ¹	Cu-64	10 ⁶	10 ²
Si-31	10 ⁶	10 ³	Cu-67	10 ⁶	10 ²
Si-32	10 ⁶	10 ³	Zn-65	10 ⁶	10 ¹
P-32	10 ⁵	10 ³	Zn-69	10 ⁶	10 ⁴
P-33	10 ⁸	10 ⁵	Zn-69m	10 ⁶	10 ²
S-35	10 ⁸	10 ⁵	Ga-67	10 ⁶	10 ²
Cl-36	10 ⁶	10 ⁴	Ga-68	10 ⁵	10 ¹
Cl-38	10 ⁵	10 ¹	Ga-72	10 ⁵	10 ¹
Ar-37	10 ⁸	10 ⁶	Ge-68	10 ⁵	10 ¹
Ar-39	10 ⁴	10 ⁷	Ge-71	10 ⁸	10 ⁴
Ar-41	10 ⁹	10 ²	Ge-77	10 ⁵	10 ¹
K-40	10 ⁶	10 ²	As-72	10 ⁵	10 ¹
K-42	10 ⁶	10 ²	As-73	10 ⁷	10 ³
K-43	10 ⁶	10 ¹	As-74	10 ⁶	10 ¹
Ca-41	10 ⁷	10 ⁵	As-76	10 ⁵	10 ²
Ca-45	10 ⁷	10 ⁴	As-77	10 ⁶	10 ³
Ca-47	10 ⁶	10 ¹	Se-75	10 ⁶	10 ²
Sc-44	10 ⁵	10 ¹	Se-79	10 ⁷	10 ⁴
Sc-46	10 ⁶	10	Br-76	10 ⁵	10 ¹
Sc-47	10 ⁶	10 ²	Br-77	10 ⁶	10 ²
Sc-48	10 ⁵	10 ¹	Br-82	10 ⁶	10 ¹
V-48	10 ⁵	10 ¹	Kr-74	10 ⁹	10 ²
V-49	10 ⁷	10 ⁴	Kr-76	10 ⁹	10 ²
Cr-51	10 ⁷	10 ³	Kr-77	10 ⁹	10 ²
Mn-51	10 ⁵	10 ¹	Kr-79	10 ⁵	10 ³
Mn-52	10 ⁵	10 ¹	Kr-81	10 ⁷	10 ⁴
Mn-52m	10 ⁹	10 ⁴	Kr-83m	10 ¹²	10 ⁵
Mn-53	10 ⁶	10 ¹	Kr-85	10 ⁴	10 ⁵
Mn-54			Kr-85m	10 ¹⁰	10 ³
Mn-56	10 ⁵	10 ¹	Kr-87	10 ⁹	10 ²

Fe-52	10^6	10^1	Kr-88	10^9	10^2
Fe-55	10^6	10^4	Rb-81	10^6	10^1
Fe-59	10^6	10^1	Rb-83	10^6	10^2
Fe-60	10^5	10^2	Rb-84	10^6	10^1
Co-55	10^6	10^1	Rb-86	10^5	10^2
Sr-85m	10^7	10^2	Rb-87	10^7	10^4
Sr-87m	10^6	10^2	Rb-nat	10^7	10^4
Sr-89	10^6	10^3	Sr-82	10^5	10^1
Sr-90 ^a	10^4	10^2	Sr-85	10^6	10^2
Sr-91	10^5	10^1	Pd-103	10^8	10^3
Sr-92	10^6	10^1	Pd-107	10^8	10^5
Y-87	10^6	10^1	Pd-109	10^6	10^3
Y-88	10^6	10^1	Ag-105	10^6	10^2
Y-90	10^5	10^3	Ag-108m ^a	10^6	10^1
Y-91	10^6	10^3	Ag-110m	10^6	10^1
Y-91m	10^6	10^2	Ag-111	10^6	10^3
Y-92	10^5	10^2	Cd-109	10^6	10^4
Y-93	10^5	10^2	Cd-113m	10^6	10^3
Zr-88	10	10^2	Cd-115	10^6	10^2
Zr-93 ^a	10^7	10^3	Cd-115m	10^6	10^3
Zr-95	10^6	10^1	In-111	10^6	10^2
Zr-97 ^a	10^5	10^1	In-113m	10^6	10^2
Nb-93m	10^7	10^4	In-114m	10^6	10^2
Nb-94	10^6	10^1	In-115m	10^6	10^2
Nb-95	10^6	10^1	Sn-113	10^7	10^3
Nb-97	10^6	10^1	Sn-117m	10^6	10^2
Nb-98	10^5	10^1	Sn-119m	10^7	10^3
Mo-90	10^6	10^1	Sn-121m	10^7	10^3
Mo-93	10^8	10^3	Sn-123	10^6	10^3
Mo-99	10^6	10^2	Sn-125	10^5	10^2
Mo-101	10^6	10^1	Sn-126	10^5	10^1
Tc-95m	10^6	10^1	Sb-122	10^4	10^2
Tc-96	10^6	10^1	Sb-124	10^6	10^1
Tc-96m	10^7	10^3	Sb-125	10^6	10^2
Tc-97	10^8	10^3	Sb-126	10^5	10^1
Tc-97m	10^7	10^3	Te-121	10^6	10^1
Tc-98	10^6	10^1	Te-121m	10^6	10^2
Tc-99	10^7	10^4	Te-123m	10^7	10^2
Tc-99m	10^7	10^2	Te-125m	10^7	10^3
Ru-97	10^7	10^2	Te-127	10^6	10^3
Ru-103	10^6	10^2	Te-127m	10^7	10^3
Ru-105	10^6	10^1	Te-129	10^6	10^2
Ru-106 ^a	10^5	10^2	Te-129m	10^6	10^3
Rh-99	10^6	10^1	Te-131	10^5	10^2
Rh-101	10^7	10^2	Te-131m	10^6	10^1
Rh-102	10^6	10^1	Te-132	10^7	10^2
Rh-102m	10^6	10^2	Te-133	10^5	10^1
Rh-103m	10^8	10^4	Te-133m	10^5	10^1

Rh-105	10^7	10^2	Te-134	10^6	10^1
I-132	10^5	10^1	I-123	10^7	10^2
I-133	10^6	10^1	I-124	10^6	10^1
I-134	10^5	10^1	I-125	10^6	10^3
I-135	10^6	10^1	I-126	10^6	10^2
Xe-122	10^9	10^2	I-129	10^5	10^2
Xe-123	10^9	10^2	I-130	10^6	10^1
Xe-127	10^5	10^3	I-131	10^6	10^2
Xe-131m	10^4	10^4	Gd-146	10^6	10^1
Xe-133	10^4	10^3	Gd-148	10^4	10^1
Xe-135	10^{10}	10^3	Gd-153	10^7	10^2
Cs-129	10^5	10^2	Gd-159	10^6	10^3
Cs-131	10^6	10^3	Tb-157	10^7	10^4
Cs-132	10^5	10^1	Tb-158	10^6	10^1
Cs-134m	10^5	10^3	Tb-160	10^6	10^1
Cs-134	10^4	10^1	Dy-159	10^7	10^3
Cs-135	10^7	10^4	Dy-165	10^6	10^3
Cs-136	10^5	10^1	Dy-166	10^6	10^3
Cs-137 ^a	10^4	10^1	Ho-166	10^5	10^3
Cs-138	10^4	10^1	Ho-166m	10^6	10^1
Ba-131	10^6	10^2	Er-169	10^7	10^4
Ba-133	10^6	10^2	Er-171	10^6	10^2
Ba-133m	10^6	10^2	Tm-167	10^6	10^2
Ba-140 ^a	10^5	10^1	Tm-170	10^6	10^3
La-137	10^7	10^3	Tm-171	10^8	10^4
La-140	10^5	10^1	Yb-169	10^7	10^2
Ce-139	10^6	10^2	Yb-175	10^7	10^3
Ce-141	10^7	10^2	Lu-172	10^6	10^1
Ce-143	10^6	10^2	Lu-173	10^7	10^2
Ce-144 ^a	10^5	10^2	Lu-174	10^7	10^2
Pr-142	10^5	10^2	Lu-174m	10^7	10^2
Pr-143	10^6	10^4	Lu-177	10^7	10^3
Nd-147	10^6	10^2	Hf-172	10^6	10^1
Nd-149	10^6	10^2	Hf-175	10^6	10^2
Pm-143	10^6	10^2	Hf-181	10^6	10^1
Pm-144	10^6	10^1	Hf-182	10^6	10^2
Pm-145	10^7	10^3	Ta-178	10^6	10^1
Pm-147	10^7	10^4	Ta-179	10^7	10^3
Pm-148m	10^6	10^1	Ta-182	10^4	10^1
Pm-149	10^6	10^3	W-178	10^6	10^1
Pm-151	10^6	10^2	W-181	10^7	10^3
Sm-145	10^7	10^2	W-185	10^7	10^4
Sm-147	10^4	10^1	W-187	10^6	10^2
Sm-151	10^8	10^4	W-188	10^5	10^2
Sm-153	10^6	10^2	Re-184	10^6	10^1
Eu-147	10^6	10^2	Re-184m	10^6	10^2
Eu-148	10^6	10^1	Re-186	10^6	10^3
Eu-149	10^7	10^2	Re-187	10^9	10^6

Eu-150	10^6	10^1	Re-188	10^5	10^2
Eu-152	10^6	10^1	Re-189	10^6	10^2
Eu-152m	10^6	10^2	Re-nat	10^9	10^6
Eu-154	10^6	10^1	Os-185	10^6	10^1
Eu-155	10^7	10^2	Os-191	10^7	10^2
Eu-156	10^6	10^1	Os-191m	10^7	10^3
Tl-200	10^6	10^1	Os-193	10^6	10^2
Tl-201	10^6	10^2	Os-194	10^5	10^2
Tl-202	10^6	10^2	Ir-189	10^7	10^2
Tl-204	10^4	10^4	Ir-190	10^6	10^1
Pb-201	10^6	10^1	Ir-192	10^4	10^1
Pb-202	10^6	10^3	Ir-194	10^5	10^2
Pb-203	10^6	10^2	Pt-188	10^6	10^1
Pb-205	10^7	10^4	Pt-191	10^6	10^2
Pb-210 ^a	10^4	10^1	Pt-193m	10^7	10^3
Pb-212 ^a	10^5	10^1	Pt-195m	10^6	10^2
Bi-205	10^6	10^1	Pt-197	10^6	10^3
Bi-206	10^5	10^1	Pt-197m	10^6	10^2
Bi-207	10^6	10^1	Au-193	10^7	10^2
Bi-210	10^6	10^3	Au-194	10^6	10^1
Bi-210m	10^5	10^1	Au-195	10^7	10^2
Bi-212 ^a	10^5	10^1	Au-198	10^6	10^2
Po-203	10^6	10^1	Au-199	10^6	10^2
Po-205	10^6	10^1	Hg-194	10^6	10^1
Po-207	10^6	10^1	Hg-195m	10^6	10^2
Po-210	10^4	10^1	Hg-197	10^7	10^2
At-211	10^7	10^3	Hg-197m	10^6	10^2
Rn-220 ^a	10^7	10^4	Hg-203	10^5	10^2
Rn-222 ^a	10^8	10^1	Pa-233	10^7	10^2
Ra-223 ^a	10^5	10^2	U-230 ^a	10^5	10^1
Ra-224 ^a	10^5	10^1	U-231	10^7	10^2
Ra-225	10^5	10^2	U-232 ^a	10^3	10^0
Ra-226 ^a	10^4	10^1	U-233	10^4	10^1
Ra-227	10^6	10^2	U-234	10^4	10^1
Ra-228 ^a	10^5	10^1	U-235 ^a	10^4	10^1
Ac-227	10^3	10^{-1}	U-236	10^4	10^1
Ac-228	10^6	10^1	U-237	10^6	10^2
Th-226 ^a	10^7	10^3	U-238 ^a	10^4	10^1
Th-227	10^4	10^1	U-nat	10^3	10^0
Th-228 ^a	10^4	10^0	U-239	10^6	10^2
Th-229 ^a	10^3	10^0	U-240	10^7	10^3
Th-230	10^4	10^0	U-240 ^a	10^6	10^1
Th-231	10^7	10^3	Np-235	10^7	10^3
Th-232	10^4	10^1	Np-236	10^5	10^2
Th-nat	10^3	10^0	Np-237 ^a	10^3	10^0
Th-234 ^a	10^5	10^3	Np-239	10^7	10^2
Pa-230	10^6	10^1	Np-240	10^6	10^1
Pa-231	10^3	10^0	Pu-234	10^7	10^2

Cm-245	10 ³	10 ⁰	Pu-235	10 ⁷	10 ²
Cm-246	10 ³	10 ⁰	Pu-236	10 ⁴	10 ¹
Cm-247	10 ⁴	10 ⁰	Pu-237	10 ⁷	10 ³
Cm-248	10 ³	10 ⁰	Pu-238	10 ⁴	10 ⁰
Bk-247	10 ⁴	10 ⁰	Pu-239	10 ⁴	10 ⁰
Bk-249	10 ⁶	10 ³	Pu-240	10 ³	10 ⁰
Cf-246	10 ⁶	10 ³	Pu-241	10 ⁵	10 ²
Cf-248	10 ⁴	10 ¹	Pu-242	10 ⁴	10 ⁰
Cf-249	10 ³	10 ⁰	Pu-243	10 ⁷	10 ³
Cf-250	10 ⁴	10 ¹	Pu-244	10 ⁴	10 ⁰
Cf-251	10 ³	10 ⁰	Am-241	10 ⁴	10 ⁰
			Am-242	10 ⁶	10 ³
			Am-242m ^a	10 ⁴	10 ⁰
			Am-243 ^a	10 ³	10 ⁰
			Cm-240	10 ⁵	10 ²
			Cm-241	10 ⁶	10 ²
			Cm-242	10 ⁵	10 ²
			Cm-243	10 ⁴	10 ⁰
			Cm-244	10 ⁴	10 ¹
			Cf-252	10 ⁴	10 ¹
			Cf-253	10 ⁵	10 ²
			Cf-254	10 ³	10 ⁰
			Es-253	10 ⁵	10 ²
			Es-254	10 ⁴	10 ¹
			Es-254m	10 ⁶	10 ²
			Fm-254	10 ⁷	10 ⁴
			Fm-255	10 ⁶	10 ³

Stoffer merket ^a i tabellen over representerer radioaktive stoffer i likevekt med de datterprodukter som er angitt nedenfor. Unntaksgrensen i tabellen refererer seg til modernukliden alene, men strålebidraget fra datterproduktene er tatt hensyn til i fastsettelsen av unntaksgrensen for modernukliden.

Sr-90	Y-90
Zr-93	Nb-93m
Zr-97	Nb-97
Ru-106	Rh-106
Ag-108m	Ag-108
Cs-137	Ba-137m
Ce-134	La-134
Ce-144	Pr-144
Ba-140	La-140
Bi-212	Tl-208 (0.36), Po-212 (0.64)
Pb-210	Bi-210, Po-210
Pb-212	Bi-212, Tl-208 (0.36), Po-212 (0.64)
Rn-220	Po-216

Rn-222	Po-218, Pb-214, Bi-214, Po-214
Ra-223	Rn-219, Po-215, Pb-211, Bi-211, Tl-207
Ra-224	Rn-220, Po-216, Pb-212, Bi-212, Tl-208 (0.36), Po-212 (0.64)
Ra-226	Rn-222, Po-218, Pb-214, Bi-214, Po-214, Pb-210, Bi-210, Po-210
Ra-228	Ac-228
Th-226	Ra-222, Rn-218, Po-214
Th-228	Ra-224, Rn-220, Po-216, Bi-210, Pb-212, Tl-208 (0.36), Po-212 (0.64)
Th-229	Ra-225, Ac-225, Fr-221, At-217, Bi-213, Po-213, Pb-209
Th-nat	Ra-228, Ac-228, Th-228, Ra-224, Rn-220, Po-216, Pb-212, Bi-212, Tl-208 (0.36), Po-212 (0.64)
Th-234	Pa-234m
U-230	Th-226, Ra-222, Rn-218, Po-214
U-232	Th-228, Ra-224, Rn-220, Po-216, Pb-212, Bi-212, Tl-208 (0.36), Po-212 (0.64)
U-235	Th-231
U-238	Th-234, Pa-234m
U-nat	Th-234, Pa-234m, U-234, Th-230, Ra-226, Rn-222, Po-218, Pb-214, Bi-214, Po-214, Pb-210, Bi-210, Po-210
U-240	Np-240m
Np-237	Pa-233
Am-242m	Am-242
Am-243	Np-239.