

Príloha č. 1
k vyhláske č. 12/2001 Z. z.

**Miera obsahu rádionuklidov, pri ktorej prekročení
je rádioaktívna látka rádioaktívny žiarič**

Tabuľka č. 1
Aktivity a hmotnostné aktivity rádionuklidov

Rádionuklid	Aktivita [Bq]	Hmotnostná aktivita [kBq/kg]
H-3	10 ⁹	10 ⁶
Be-7	10 ⁷	10 ³
C-14	10 ⁷	10 ⁴
O-15	10 ⁹	10 ²
F-18	10 ⁶	10
Na-22	10 ⁶	10
Na-24	10 ⁵	10
Si-31	10 ⁶	10 ³
P-32	10 ⁵	10 ³
P-33	10 ⁸	10 ⁵
S-35	10 ⁸	10 ⁵
C-136	10 ⁶	10 ⁴
C-138	10 ⁵	10
Ar-37	10 ⁸	10 ⁶
Ar-41	10 ⁹	10 ²
K-40	10 ⁶	10 ²
K-42	10 ⁶	10 ²
K-43	10 ⁶	10
Ca-45	10 ⁷	10 ⁴
Ca-47	10 ⁶	10
Sc-46	10 ⁶	10
Sc-47	10 ⁶	10 ²
Sc-48	10 ⁵	10

Rádionuklid	Aktivita [Bq]	Hmotnostná aktivita [kBq/kg]
V-48	10 ⁵	10
Cr-51	10 ⁷	10 ³
Mn-51	10 ⁵	10
Mn-52	10 ⁵	10
Mn-52 m	10 ⁵	10
Mn-53	10 ⁹	10 ⁴
Mn-54	10 ⁶	10
Mn-56	10 ⁵	10
Fe-52	10 ⁶	10
Fe-55	10 ⁶	10 ⁴
Fe-59	10 ⁶	10
Co-55	10 ⁶	10
Co-56	10 ⁵	10
Co-57	10 ⁶	10 ²
Co-58	10 ⁶	10
Co-58 m	10 ⁷	10 ⁴
Co-60	10 ⁵	10
Co-60 m	10 ⁶	10 ³
Co-61	10 ⁶	10 ²
Co-62 m	10 ⁵	10
Ni-59	10 ⁸	10 ⁴
Ni-63	10 ⁸	10 ⁵
Ni-65	10 ⁶	10

Rádionuklid	Aktivita [Bq]	Hmotnostná aktivita [kBq/kg]
Cu-64	10 ⁶	10 ²
Zn-65	10 ⁶	10
Zn-69	10 ⁶	10 ⁴
Zn-69 m	10 ⁶	10 ²
Ga-72	10 ⁵	10
Ge-71	10 ⁸	10 ⁴
As-73	10 ⁷	10 ³
As-74	10 ⁶	10
As-76	10 ⁵	10 ²
As-77	10 ⁶	10 ³
Se-75	10 ⁶	10 ²
Br-82	10 ⁶	10
Kr-74	10 ⁹	10 ²
Kr-76	10 ⁹	10 ²
Kr-77	10 ⁹	10 ²
Kr-79	10 ⁵	10 ³
Kr-81	10 ⁷	10 ⁴
Kr-83 m	10 ¹²	10 ⁵
Kr-85	10 ⁴	10 ⁵
Kr-85 m	10 ¹⁰	10 ³
Kr-87	10 ⁹	10 ²
Kr-88	10 ⁹	10 ²
Rb-86	10 ⁵	10 ²
Sr-85	10 ⁶	10 ²
Sr-85 m	10 ⁷	10 ²
Sr-87 m	10 ⁶	10 ²
Sr-89	10 ⁶	10 ³
Sr-90*	10 ⁴	10 ²
Sr-91	10 ⁵	10
Sr-92	10 ⁶	10
Y-90	10 ⁵	10 ³
Y-91	10 ⁶	10 ³

Rádionuklid	Aktivita [Bq]	Hmotnostná aktivita [kBq/kg]
Y-91 m	10 ⁶	10 ²
Y-92	10 ⁵	10 ²
Y-93	10 ⁵	10 ²
Zr-93 *	10 ⁷	10 ³
Zr-95	10 ⁶	10
Zr-97*	10 ⁵	10
Nb-93 m	10 ⁷	10 ⁴
Nb-94	10 ⁶	10
Nb-95	10 ⁶	10
Nb-97	10 ⁶	10
Nb-98	10 ⁵	10
Mo-90	10 ⁶	10
Mo-93	10 ⁸	10 ³
Mo-99	10 ⁶	10 ²
Mo-101	10 ⁶	10
Tc-96	10 ⁶	10
Tc-96 m	10 ⁷	10 ³
Tc-97	10 ⁸	10 ³
Tc-97m	10 ⁷	10 ³
Tc-99	10 ⁷	10 ⁴
Tc-99 m	10 ⁷	10 ²
Ru-97	10 ⁷	10 ²
Ru-103	10 ⁶	10 ²
Ru-105	10 ⁶	10
Ru-106*	10 ⁵	10 ²
Rh-103 m	10 ⁸	10 ⁴
Rh-105	10 ⁷	10 ²
Pd-103	10 ⁸	10 ³
Pd-109	10 ⁶	10 ³
Ag-105	10 ⁶	10 ²
Ag-108 m*	10 ⁶	10
Ag-110 m	10 ⁶	10

Rádionuklid	Aktivita [Bq]	Hmotnostná aktivita [kBq/kg]
Ag-111	10 ⁶	10 ³
Cd-109	10 ⁶	10 ⁴
Cd-115	10 ⁶	10 ²
Cd-115 m	10 ⁶	10 ³
In-111	10 ⁶	10 ²
In-113 m	10 ⁶	10 ²
In-114 m	10 ⁶	10 ²
In-115 m	10 ⁶	10 ²
Sn-113	10 ⁷	10 ³
Sn-125	10 ⁵	10 ²
Sb-122	10 ⁴	10 ²
Sb-124	10 ⁶	10
Sb-125	10 ⁶	10 ²
Te-123 m	10 ⁷	10 ²
Te-125 m	10 ⁷	10 ³
Te-127	10 ⁶	10 ³
Te-127m	10 ⁷	10 ³
Te-129	10 ⁶	10 ²
Te-129 m	10 ⁶	10 ³
Te-131	10 ⁵	10 ²
Te-131 m	10 ⁶	10
Te-132	10 ⁷	10 ²
Te-133	10 ⁵	10
Te-133 m	10 ⁵	10
Te-134	10 ⁶	10
I-123	10 ⁷	10 ²
I-125	10 ⁶	10 ³
I-126	10 ⁶	10 ²
I-129	10 ⁵	10 ²
I-130	10 ⁶	10
I-131	10 ⁶	10 ²
I-132	10 ⁵	10

Rádionuklid	Aktivita [Bq]	Hmotnostná aktivita [kBq/kg]
I-133	10 ⁶	10
I-134	10 ⁵	10
I-135	10 ⁶	10
Xe-131 m	10 ⁴	10 ⁴
Xe-133	10 ⁴	10 ³
Xe-135	10 ¹⁰	10 ³
Cs-129	10 ⁵	10 ²
Cs-131	10 ⁶	10 ³
Cs-132	10 ⁵	10
Cs-134 m	10 ⁵	10 ³
Cs-134	10 ⁴	10
Cs-135	10 ⁷	10 ⁴
Cs-136	10 ⁵	10
Cs-137*	10 ⁴	10
Cs-138	10 ⁴	10
Ba-131	10 ⁶	10 ²
Ba-140*	10 ⁵	10
La-140	10 ⁵	10
Ce-139	10 ⁶	10 ²
Ce-141	10 ⁷	10 ²
Ce-143	10 ⁶	10 ²
Ce-144*	10 ⁵	10 ²
Pr-142	10 ⁵	10 ²
Pr-143	10 ⁶	10 ⁴
Nd-147	10 ⁶	10 ²
Nd-149	10 ⁶	10 ²
Pm-147	10 ⁷	10 ⁴
Pm-149	10 ⁶	10 ³
Sm-151	10 ⁸	10 ⁴
Sm-153	10 ⁶	10 ²
Eu-152	10 ⁶	10
Eu-152 m	10 ⁶	10 ²

Rádionuklid	Aktivita [Bq]	Hmotnostná aktivita [kBq/kg]
Eu-154	10 ⁶	10
Eu-155	10 ⁷	10 ²
Gd-153	10 ⁷	10 ²
Gd-159	10 ⁶	10 ³
Tb-160	10 ⁶	10
Dy-165	10 ⁶	10 ³
Dy-166	10 ⁶	10 ³
Ho-166	10 ⁵	10 ³
Er-169	10 ⁷	10 ⁴
Er-171	10 ⁶	10 ²
Tm-170	10 ⁶	10 ³
Tm-171	10 ⁸	10 ⁴
Yb-175	10 ⁷	10 ³
Lu-177	10 ⁷	10 ³
Hf-181	10 ⁶	10
Ta-182	10 ⁴	10
W-181	10 ⁷	10 ³
W-185	10 ⁷	10 ⁴
W-187	10 ⁶	10 ²
Re-186	10 ⁶	10 ³
Re-188	10 ⁵	10 ²
Os-185	10 ⁶	10
Os-191	10 ⁷	10 ²
Os-191 m	10 ⁷	10 ³
Os-193	10 ⁶	10 ²
Ir-190	10 ⁶	10
Ir-192	10 ⁴	10
Ir-194	10 ⁵	10 ²
Pt-191	10 ⁶	10 ²
Pt-193 m	10 ⁷	10 ³
Pt-197	10 ⁶	10 ³
Pt-197 m	10 ⁶	10 ²

Rádionuklid	Aktivita [Bq]	Hmotnostná aktivita [kBq/kg]
Au-198	10 ⁶	10 ²
Au-199	10 ⁶	10 ²
Hg-197	10 ⁷	10 ²
Hg-197 m	10 ⁶	10 ²
Hg-203	10 ⁵	10 ²
Tl-200	10 ⁶	10
Tl-201	10 ⁶	10 ²
Tl-202	10 ⁶	10 ²
Tl-204	10 ⁴	10 ⁴
Pb-203	10 ⁶	10 ²
Pb-210*	10 ⁴	10
Pb-212*	10 ⁵	10
Bi-206	10 ⁵	10
Bi-207	10 ⁶	10
Bi-210	10 ⁶	10 ³
Bi-212*	10 ⁵	10
Po-203	10 ⁶	10
Po-205	10 ⁶	10
Po-207	10 ⁶	10
Po-210	10 ⁴	10
At-211	10 ⁷	10 ³
Rn-220*	10 ⁷	10 ⁴
Rn-222*	10 ⁸	10
Ra-223*	10 ⁵	10 ²
Ra-224*	10 ⁵	10
Ra-225	10 ⁵	10 ²
Ra-226*	10 ⁴	10
Ra-227	10 ⁶	10 ²
Ra-228*	10 ⁵	10
Ac-228	10 ⁶	10
Th-226*	10 ⁷	10 ³
Th-227	10 ⁴	10

Rádionuklid	Aktivita [Bq]	Hmotnostná aktivita [kBq/kg]
Th-228*	10 ⁴	1
Th-229*	10 ³	1
Th-230	10 ⁴	1
Th-231	10 ⁷	10 ³
prírodné Th*	10 ³	1
Th-234	10 ⁵	10 ³
Pa-230	10 ⁶	10
Pa-231	10 ³	1
Pa-233	10 ⁷	10 ²
U-230*	10 ⁵	10
U-231	10 ⁷	10 ²
U-232*	10 ³	1
U-233	10 ⁴	10
U-234	10 ⁴	10
U-235*	10 ⁴	10
U-236	10 ⁴	10
U-237	10 ⁶	10 ²
U-238*	10 ⁴	10
prírodný U*	10 ³	1
U-239	10 ⁶	10 ²
U-240	10 ⁷	10 ³
U-240*	10 ⁶	10
Np-237*	10 ³	1
Np-239	10 ⁷	10 ²
Np-240	10 ⁶	10
Pu-234	10 ⁷	10 ²
Pu-235	10 ⁷	10 ²
Pu-236	10 ⁴	10
Pu-237	10 ⁷	10 ³
Pu-238	10 ⁴	1
Pu-239	10 ⁴	1

Rádionuklid	Aktivita [Bq]	Hmotnostná aktivita [kBq/kg]
Pu-240	10 ³	1
Pu-241	10 ⁵	10 ²
Pu-242	10 ⁴	1
Pu-243	10 ⁷	10 ³
Pu-244	10 ⁴	1
Am-241	10 ⁴	1
Am-242	10 ⁶	10 ³
Am-242 m*	10 ⁴	1
Am-243*	10 ³	1
Cm-242	10 ⁵	10 ²
Cm-243	10 ⁴	1
Cm-244	10 ⁴	10
Cm-245	10 ³	1
Cm-246	10 ³	1
Cm-247	10 ⁴	1
Cm-248	10 ³	1
Bk-249	10 ⁶	10 ³
Cf-246	10 ⁶	10 ³
Cf-248	10 ⁴	10
Cf-249	10 ³	1
Cf-250	10 ⁴	10
Cf-251	10 ³	1
Cf-252	10 ⁴	10
Cf-253	10 ⁵	10 ²
Cf-254	10 ³	1
Es-253	10 ⁵	10 ²
Es-254	10 ⁴	10
Es-254 m	10 ⁶	10 ²
Fm-254	10 ⁷	10 ⁴
Fm-255	10 ⁶	10 ³

*) Materské rádionuklidy, pri ktorých sú hodnoty aktivity a hmotnostnej aktivity stanovené v rovnováhe s ich produktmi rádioaktívnej premeny uvedenými v tabuľke č. 2.

Tabuka č. 2

Materské rádionuklidy, pri ktorých sú hodnoty aktivity a hmotnostnej aktivity uvedené v tabuke č. 1 stanovené v rovnováhe s ich produktmi rádioaktívnej premeny

Materský rádionuklid	Produkty rádioaktívnej premeny (dcérske rádionuklidy)
Sr-90	Y-90
Zr-93	Nb-93 m
Zr-97	Nb-97
Ru-106	Rh-106
Ag-108 m	Ag-108
Cs-137	Ba-137 m
Ba-140	La-140
Ce-134	La-134
Ce-144	Pr-144
Pb-210	Bi-210, Po-210
Bi-212	Tl-208 (0,36), Po-212 (0,64)
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, Pb-212, Bi-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
prírodné Th	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-234 m
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-234 m
prírodný U	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-240 m
Np-237	Pa-233
Am-242 m	Am-242
Am-243	Np-239