

isotope	t 1/2	risk group	beta(max)	%	gamma	%	point 30 cm gamma mSv/hr 1MBq	point 30 cm beta mSv/hr 1MBq	half value Pb mm	tenth value pb mm	ali Bq in
H-3	12.5 y	4	19	100							1.10E+09
C-14	5730 y	3	157	100							3.40E+07
F-18	1.83 hr	2	634	97	511	194	1.83E-03	1.20E-01	6	17	2.20E+08
Na-22	2.6 y	2	546	90	511	181	3.60E-03	0.1	10	37	1.00E+07
					1275	100					
Na-24	15 hr	2	1390	100	1369	100	5.40E-03	0.12	20	58	3.80E+07
					2754	100					
P-32	14.3 d	2	1710	100				0.12	6.3 mm plastic		6.30E+06
P-33	25.6 d	4	249	100				0			1.40E+07
S-35	87.5 d	4	168	100							1.50E+07
Cl-36	3E5 y	2	710	98				0.11	2 mm plastic		2.90E+06
K-40	1.3E9 y	2	1312	89	1461	11	2.30E-04	0.11	18	51	6.70E+06
Ca-45	163 d	3	257	100							7.40E+06
Cr-51	27.7 d	3			320	10	6.00E-05		2	10	5.60E+08
Co-57	271.8 d	2			122	86	2.50E-04		<1	1	2.10E+07
					136	11					
Co-60	5.27 y	2	318	100	1173	100	3.90E-03	0.013	16	46	6.90E+05
					1333	100					
Ni-63	100 y	4	66	100							3.80E+08
Zn-65	243.9 d	2	330	2	511	3	9.30E-04	5.20E-04	14	42	6.90E+06
					1116	51					
Ga-67	3.26 d	2			93	39	2.80E-04		1	6	7.10E+07
					185	21					
					300	17					
Br-82	1.47 d	2	448	99	554	71	4.40E-03	0.05	10	33	2.30E+07
					777	83					
					1318	27					
Kr-85	10.7 y	1	687	100	514	<1	4.10E-06	0.12	6	17	gas
Rb-86	18.64 d	2	698	9	1077	9	1.50E-04	0.11	14	41	1.50E+07
			1774	91							
Sr-89	50.5 d	2	1492	100	909	<1	2.30E-07	0.12	12	35	2.70E+06
									plastic 5.3 mm		
Sr-90/Y-90	29.1 y	1	546	100				0.2	plastic 9.2 mm		1.30E+05

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			2284	100							
Y-90	2.7 d	2	2284	100		0.11	plastic 9.2 mm		1.20E+07		
Mo99/Tc99m	2.75 d	2	436	17	141	91	5.40E-04	0.11	1	19	1.80E+07
			1214	82	740	12			plastic 4 mm		
Tc-99m	6 h	3			18	6	2.60E-04		<1	1	6.90E+08
					141	89					
Ru-103	39.3 d	2	113	7	20	7	9.20E-04	4.70E-03	5	16	7.10E+06
			226	90	497	90					
			723	4	610	6					
Cd-109	462.6	2			22	83	2.10E-04		<1	<1	2.10E+06
					25	15					
					88	4					
In-111	2.8 d	2			23	69	9.90E-04		<1	3	6.50E+07
					171	90					
					245	94					
In-113m	1.66 h	2			24	20	5.60E-04		3	10	6.30E+08
					27	4					
					392	65					
I-123	13.2 h	3			27	71	5.20E-04		1	2	1.80E+08
					159	83					
					529	1					
I-125	60.2 d	2			27	114	3.90E-04		<1	<1	2.70E+06
					31	26					
					36	7					
I-131	8 d	2	248	2	284	6	7.30E-04	0.086	3	11	1.80E+06
			334	7	365	82					
			606	90	637	7					
Xe-133	5.2 d	1	346	99	31	38	1.80E-04	0.018	<1	<1	gas
					35	7					
					81	38					
Cs-137/ba	30.2 y	1	512	95	32	6	1.10E-03	0.21	8	24	3.00E+06
			1173	5	662	85					
Ba-133	10.5 y	2			31	99	9.70E-04		1	7	1.10E+07
					81	34					
					356	62					
Pm-147	2.6 y	3	225	100	121	<1	6.80E+09		<1	1	4.30E+06
									plastic 0.5 mm		

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Ir-192	73.8 d	1	256	6	317	83	1.50E-03	0.084	3	12	3.20E+06
			536	41	468	48					
			672	48	604	8					
Au-198	2.7 y	2	961	99	412	96	7.60E-04	0.12	4	12	1.80E+07
Tl-201	3.04 d	2			71	47	2.00E-04		<1	1	2.60E+08
					135	3					
					167	10					

<p><u>From mSv/hr 1MBq at 30cm to mR/hr 1mCi</u></p> <p>2.00E-04 mSv/hr 1MBq mR/hr</p> <p>0.74 1mCi</p>	<p><u>Decay calculation</u></p> <p>5 A0</p> <p>5 T</p> <p>5 T1/2</p> <p>2.50036797</p> <p>8 At</p>
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