

Recommended Nuclear Decay Data

Co-60

Decay Mode: β^-		Half-Life: (1925.3 \pm 0.4) d			[2]	
Radiation Type		Energy (keV)		Intensity (%)		Ref.
Auger-L		0.7	- 0.9	0.0392	12	[1]
Auger-K		6.26	- 8.32	0.0154	5	[1]
β^- max		157.8		\ll 0.001	--	[1]
β^- max		318.22		99.88	3	[1]
β^- av		95.77				[1]
β^- max		665.3		\ll 0.001	--	[1]
β^- max		1491.4		0.12	3	[1]
β^- av		625.87				[1]
β^- max		2823.9		\ll 0.001	--	[1]
X-ray L	Σ	0.74	- 0.94	$<$ 0.001	--	[1]
X-ray K α	Σ	7.46	- 7.48	0.0098	4	[1]
X-ray K β	Σ	8.26	- 8.27	0.00136	5	[1]
γ		347.14		0.0075	4	[2]
γ		826.10		0.0076	8	[2]
γ		1173.2		99.85	3	[2]
γ		1332.5		99.9826	6	[2]
γ		2158.8		0.0012	2	[2]
γ		2505.7		\ll 0.001	--	[2]

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■ Decay Mode

α	Alpha
β^- , β^+	Beta
EC	Electron capture
IT	Isomeric transition

■ Half-Life

s	Seconds
m	Minutes
h	Hours
d	Days
y	Years

■ Energy

All energies are given in keV.
Normally there are energies listed with an intensity $\geq 1\%$.

■ Radiation Type

Auger-L/K	L or K-shell auger electron
ce-K-1	K-shell conversion electron transition 1
ce-L-2	L-shell conversion electron transition 2
α	Alpha particle
β^- max, β^+ max	Beta particle (maximal energy)
β^- av, β^+ av	Beta particle (average energy)
X-ray L	L X-ray
X-ray $K\alpha$, $K\beta$	K X-rays
γ	Gamma ray
γ Annih.	Annihilation radiation
Σ	Signifies weighted mean energies and intensities

■ Intensity

Values are given in percent. The format used for the uncertainties in the listed values can be illustrated by the following examples:

$$1.2 \quad 56 \quad = \quad 1.2 \pm 5.6$$
$$1.23 \quad 56 \quad = \quad 1.23 \pm 0.56$$

■ References

- [1] PTB-6.11-97-1, Braunschweig, Oktober 1997
- [2] PTB-Ra-16/5, Braunschweig, Mai 2000
- [3] LMRI. Table de radionuclides. 1982 ff
- [4] NCRP Report No.58, 2nd Edition, February 1985
- [5] Table de Radionuclides, BNM-CEA/DTA/LPRI Commissariat à l'Énergie Atomique – France 1999
- [6] National Nuclear Data Center USA, Brookhaven National Laboratory Upton N.Y.
- [7] Table of Isotopes, 8th Edition, 1996
- [8] BNM-CEA/DTA/DAMRI Nuclear and Atomic Decay Data ; 19/12/98

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