

# Recommended Nuclear Decay Data

## Am-241

Decay Mode: $\alpha$		Half-Life: (157850 $\pm$ 240) d			[2]
Radiation Type		Energy (keV)	Intensity (%)		Ref.
Auger-L		10	30	5	[4]
ce-L-2		3.92	14	5	[4]
ce-L-5		10.78	17	3	[4]
ce-L-7		20.3	0.324	23	[4]
ce-M-2		20.61	3.9	5	[4]
ce-L-8		21.0	9.1	12	[4]
ce-M-5		27.47	4.4	7	[4]
ce-L-11		33.13	0.89	12	[4]
ce-L-14		37.11	30.2	22	[4]
ce-M-8		37.68	2.4	3	[4]
ce-M-11		49.82	0.24	3	[4]
ce-M-14		53.8	8.1	3	[4]
ce-NOP-14		58.04	34	4	[4]
ce-L-22		76.54	0.229	8	[4]
$\alpha$		5388.0	1.40	20	[4]
$\alpha$		5443.0	12.80	20	[4]
$\alpha$		5485.7	85.2	8	[4]
$\alpha$		5512.0	0.20	5	[4]
$\alpha$		5544.3	0.34	5	[4]
X-ray L	$\Sigma$	16.6	37.7	6	[2]
$\gamma$		26.34	2.40	2	[2]
$\gamma$		33.20	0.126	3	[2]
$\gamma$		43.42	0.073	8	[2]
$\gamma$		59.54	35.9	4	[2]

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## ■ Decay Mode

$\alpha$	Alpha
$\beta^-$ , $\beta^+$	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
$\alpha$	Alpha particle
$\beta^-$ max, $\beta^+$ max	Beta particle (maximal energy)
$\beta^-$ av, $\beta^+$ av	Beta particle (average energy)
X-ray L	L X-ray
X-ray $K\alpha$ , $K\beta$	K X-rays
$\gamma$	Gamma ray
$\gamma$ Annih.	Annihilation radiation
$\Sigma$	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:

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

## ■ 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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