

Cd-101 (1.36m) ECB+	Cd-102 (5.5m) ECB+	Cd-103 (7.3m)	Cd-104 (57.7m) EC	Cd-105 (55.5m) ECB+	Cd-106 (STABLE)	Cd-107 (6.50h) ECB+		
Ag-99 (124s) ECB+	Ag-100 (1.83m) ECB+	Ag-101 (1.83m) ECB+	Ag-102 (12.9m) ECB+	Ag-103 (6.8m) ECB+	Ag-104 (69.2m) ECB+	Ag-105 (41.29d) EC	Ag-106 (23.96m) ECB+B-	
Pd-97 (3.10m) ECB+	Pd-98 (17.7m) ECB+	Pd-99 (21.4m) ECB+	Pd-100 (3.63d) EC	Pd-101 (14.29d) EC	Pd-102 (STABLE)	Pd-103 (16.991d) EC	Pd-104 (STABLE)	Pd-105 (STABLE)

SILVER-102

SUMMARY DATA

GENERAL

CLASSIFICATION

Isotope: Ag-102
Atomic number (Z): 47
Mass number (A): 102
Neutron number (N): 55

RADIOACTIVE DECAY

Decay modes: β^+ , Electron capture
Half-life: 12.9 [m]
Decay constant: $8.9554\text{e-}04$ [1/s]
Daughters: Pd-102 (100.0%)
Radioactive daughters: None

DOSIMETRIC CONSTANTS

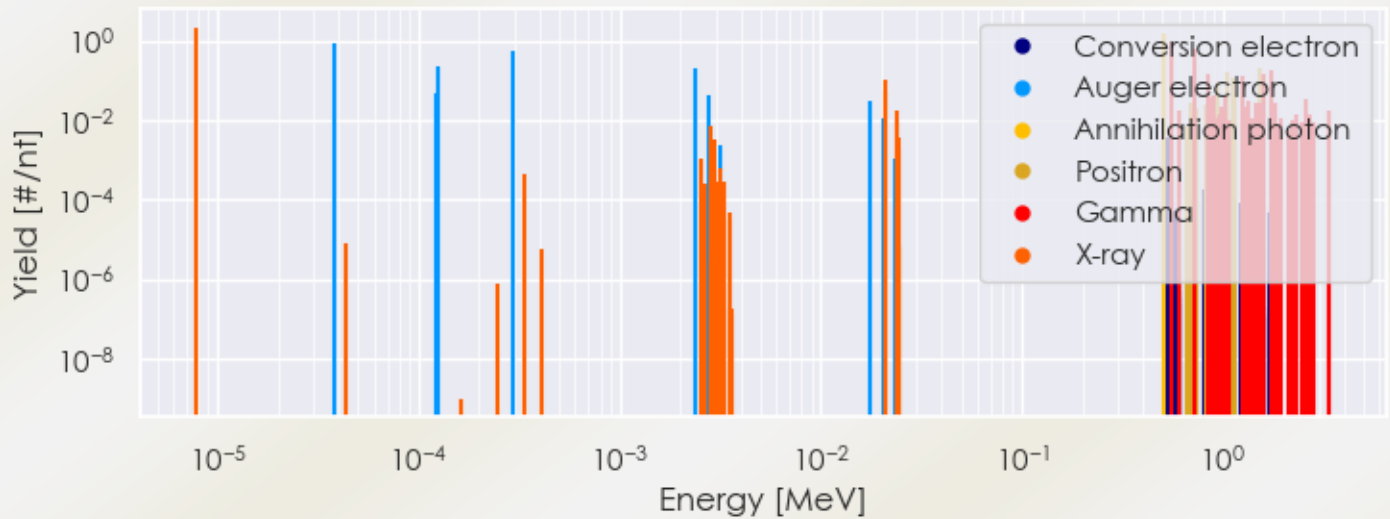
Mean alpha energy: 0.0 [MeV]
Mean electron energy: 0.84299 [MeV]
Mean photon energy: 3.40918 [MeV]
Air kerma rate constant, Γ_{10} : $9.228\text{e-}17$ [Gy·m²/Bq·s]
Air kerma coefficient, K_{air} : $1.208\text{e-}16$ [Gy·m²/Bq·s]
Equilibrium dose constant for weakly-penetrating radiations (α and/or electrons), Δ_{wp} : $1.351\text{e-}13$ [Gy·kg/Bq·s]
Equilibrium dose constant for alphas, Δ_{α} : $0.000\text{e+}00$ [Gy·kg/Bq·s]

Equilibrium dose constant for betas/electrons, $\Delta_{\beta, \beta^+, e^-}$: 1.351×10^{-13} [Gy·kg/Bq·s]

Equilibrium dose constant for photons, Δ_p : 5.462×10^{-13} [Gy·kg/Bq·s]

SUMMARY SPECTRA (PLOT)

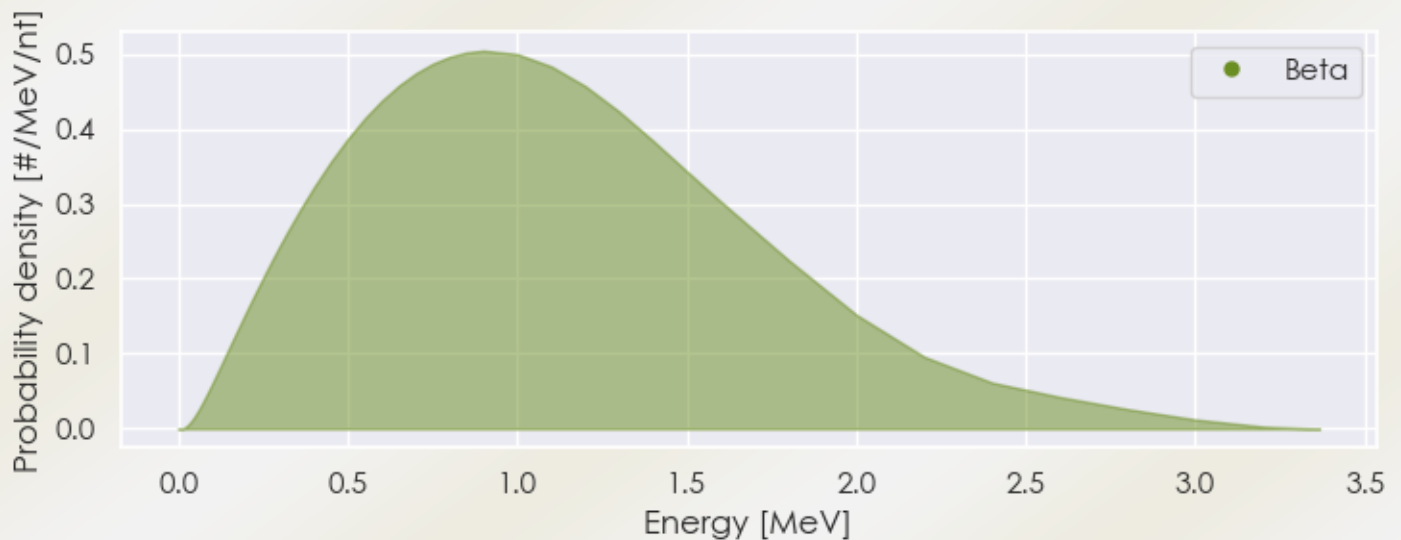
Spectra source: **ICRP Publication 107: Nuclear Decay Data for Dosimetric Calculations. Ann. ICRP 2008, 38 (3).**



Download tabulated summary spectra file here: [www.mirdsoft.org/products/MIRDspecs/Ag-102 Summary Spectrum.csv](http://www.mirdsoft.org/products/MIRDspecs/Ag-102%20Summary%20Spectrum.csv)

BETA SPECTRA (PLOT)

Spectra source: **ICRP Publication 107: Nuclear Decay Data for Dosimetric Calculations. Ann. ICRP 2008, 38 (3).**



Download tabulated beta spectra file here: [www.mirdsoft.org/products/MIRDspecs/Ag-102 Beta Spectrum.csv](http://www.mirdsoft.org/products/MIRDspecs/Ag-102%20Beta%20Spectrum.csv)

TABULATED DATA

SUMMARY SPECTRA (TABLE)

Spectra source: **ICRP Publication 107: Nuclear Decay Data for Dosimetric Calculations. Ann. ICRP 2008, 38 (3).**

Note: Radiations with yield < 0.01 are excluded from the table, but are available in the linked *.csv data.

Download tabulated summary spectra file here: [www.mirdsoft.org/products/MIRDspecs/Ag-102 Summary Spectrum.csv](http://www.mirdsoft.org/products/MIRDspecs/Ag-102%20Summary%20Spectrum.csv)

Energy [MeV]	Yield [# /nt] if > 0.01	Radiation type
7.85943e-06	2.172e+00	X-ray
2.09884e-02	5.545e-02	X-ray
2.11504e-02	1.047e-01	X-ray
2.37942e-02	1.754e-02	X-ray
5.11000e-01	1.471e+00	Annihilation photon
5.56700e-01	9.798e-01	Gamma
6.03600e-01	1.704e-02	Gamma
7.19400e-01	5.822e-01	Gamma
8.35400e-01	1.377e-01	Gamma
8.65700e-01	3.692e-02	Gamma
8.91500e-01	4.118e-02	Gamma
9.37400e-01	1.136e-02	Gamma
9.64400e-01	1.420e-02	Gamma
9.77700e-01	2.130e-02	Gamma
1.02500e+00	4.260e-02	Gamma
1.25710e+00	1.278e-01	Gamma
1.30570e+00	2.272e-02	Gamma
1.33120e+00	3.124e-02	Gamma
1.39440e+00	1.136e-02	Gamma
1.47430e+00	2.698e-02	Gamma
1.52270e+00	2.698e-02	Gamma
1.53480e+00	2.272e-02	Gamma
1.55580e+00	2.556e-02	Gamma
1.58160e+00	1.377e-01	Gamma
1.74460e+00	1.732e-01	Gamma
1.80070e+00	2.840e-02	Gamma
1.92490e+00	1.136e-02	Gamma
2.31020e+00	1.420e-02	Gamma

2.61300e+00	3.550e-02	Gamma
2.72690e+00	1.420e-02	Gamma
3.39800e+00	1.420e-02	Gamma
3.40650e+00	1.704e-02	Gamma
6.96686e-01	2.595e-02	Positron
7.27025e-01	1.397e-02	Positron
7.29738e-01	2.096e-02	Positron
7.41409e-01	1.996e-02	Positron
8.22222e-01	2.295e-02	Positron
9.43832e-01	9.082e-02	Positron
1.05072e+00	1.677e-01	Positron
1.12616e+00	1.158e-01	Positron
1.13865e+00	5.090e-02	Positron
1.52993e+00	1.996e-01	Positron
3.81983e-05	8.185e-01	Auger electron
1.21681e-04	4.949e-02	Auger electron
1.26006e-04	2.151e-01	Auger electron
2.92896e-04	5.309e-01	Auger electron
2.38225e-03	2.022e-01	Auger electron
2.75691e-03	4.102e-02	Auger electron
1.76856e-02	2.925e-02	Auger electron
2.05196e-02	1.161e-02	Auger electron

USEFUL LINKS

Isotope decay characteristics are periodically updated as better measurements can be made - changes that may not be reflected on this page. Please see useful links:

National Nuclear Data Center (NNDC): <https://www.nndc.bnl.gov/nudat3/mird/>

International Atomic Energy Agency (IAEA) Livechart: <https://www-nds.iaea.org/relnsd/vcharthtml/VChartHTML.html>

REFERENCE LINKS

ICRP Report 107: <https://www.icrp.org/publication.asp?id=ICRP%20Publication%20107>

Graves et al. Dose Point Kernels: <https://doi.org/10.1002/mp.13789>

MIRD Decay Schemes 2nd Edition: https://sites.snmmi.org/SNMMI-MAIN/iCore/Store/StoreLayouts/Item_Detail.aspx?iProductCode=0-932004-80-6