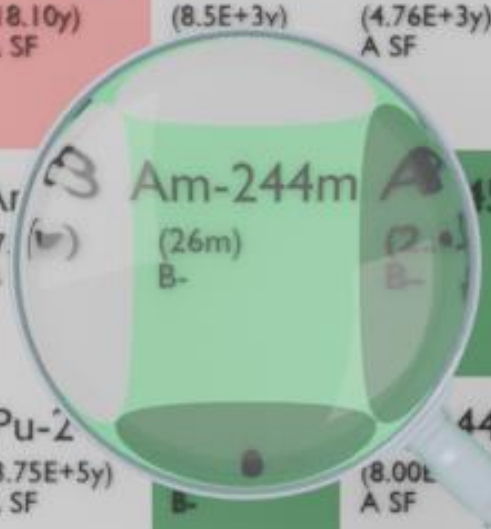




Am-240 (50.8h) A	Am-241 (432.2y) A	Am-242 (16.02h) B-EC	Am-243 (7.37y) A	Am-244m (26m) B-	Am-245 (15.9h) B-	Am-246 (39m) B-	Am-247 (23.0m) B-
Pu-239 (24111E+4y) A SF	Pu-240 (6564y) A SF	Pu-241 (14.35y) B-A	Pu-242 (3.75E+5y) A SF	Pu-244 (8.00E+5y) A SF	Pu-245 (10.5h) B-	Pu-246 (10.84d) B-	

AMERICIUM-244M

SUMMARY DATA

GENERAL

CLASSIFICATION

Isotope: Am-244m

Atomic number (Z): 95

Mass number (A): 244

Neutron number (N): 149

RADIOACTIVE DECAY

Decay modes: β^-

Half-life: 26.0 [m]

Decay constant: 4.4433e-04 [1/s]

Daughters: Cm-244 (100.0%)

Radioactive daughters: Cm-244

DOSIMETRIC CONSTANTS

Mean alpha energy: 0.0 [MeV]

Mean electron energy: 0.5187 [MeV]

Mean photon energy: 0.01719 [MeV]

Air kerma rate constant, Γ_{10} : 3.088e-18 [Gy·m²/Bq·s]

Air kerma coefficient, K_{air} : 3.088e-18 [Gy·m²/Bq·s]

Equilibrium dose constant for weakly-penetrating radiations (α and/or electrons), Δ_{wp} : 8.311e-14 [Gy·kg/Bq·s]

Equilibrium dose constant for alphas, Δ_{α} : 0.000e+00 [Gy·kg/Bq·s]

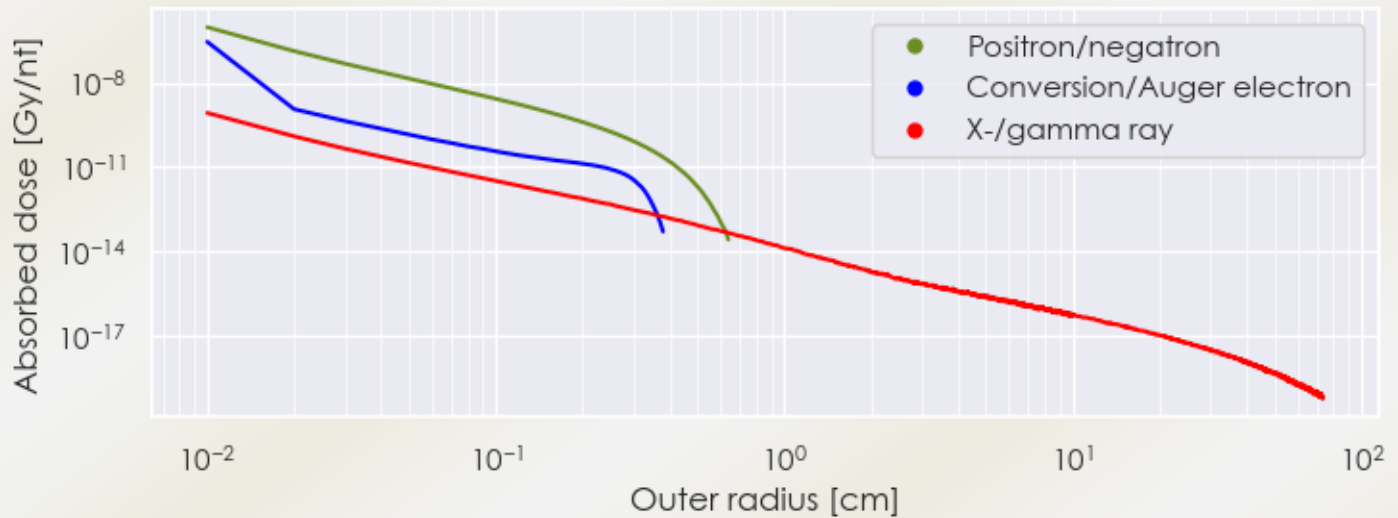
Equilibrium dose constant for betas/electrons, $\Delta_{\beta,\beta^+,e^-}$: 8.311×10^{-14} [Gy·kg/Bq·s]

Equilibrium dose constant for photons, Δ_p : 2.754×10^{-15} [Gy·kg/Bq·s]

DOSE POINT KERNELS (PLOT)

Dose point kernel source: **Graves, et al. Medical Physics. 2019 Nov.; 46(11):5284-5293.**

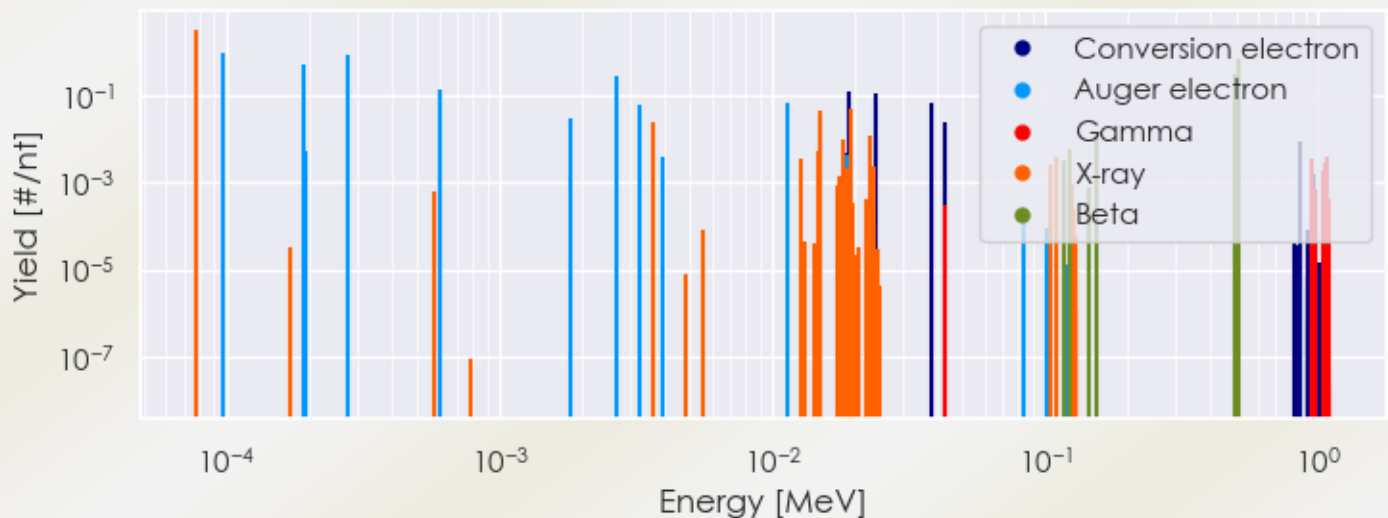
Note: Bins are spaced every 0.1 mm until a radius of 10 cm, and every 1 mm until a radius of 2 m.



Download tabulated dose point kernel file here: www.mirdsoft.org/products/MIRDspecs/Am-244m DPK.csv

SUMMARY SPECTRA (PLOT)

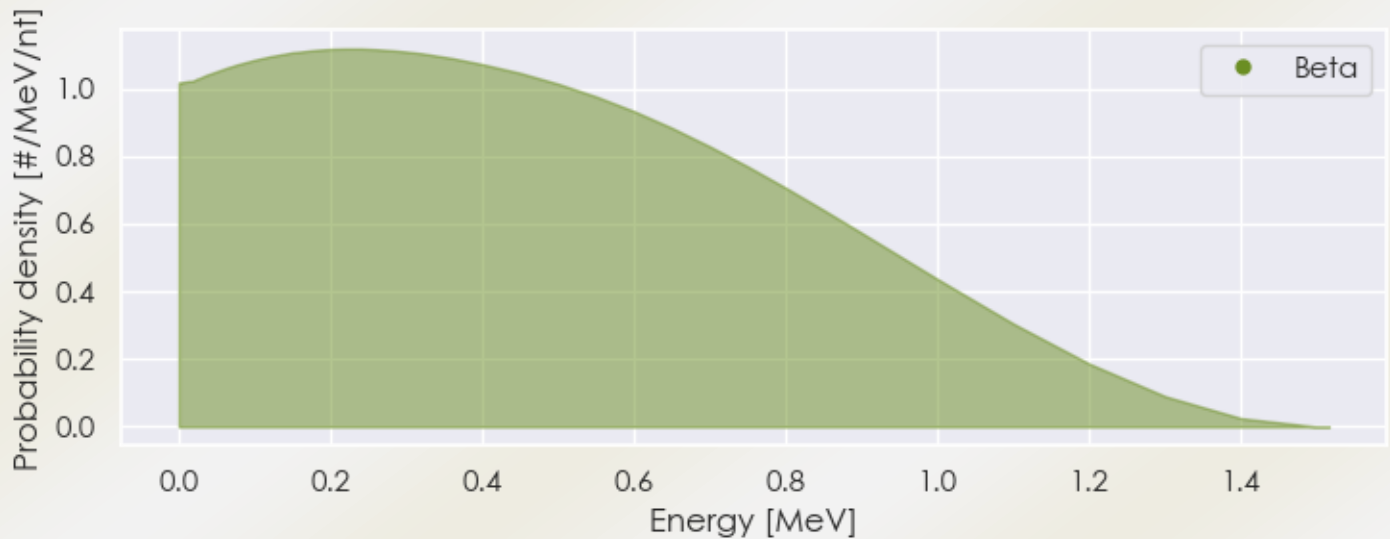
Spectra source: **ICRP Publication 107: Nuclear Decay Data for Dosimetric Calculations. Ann. ICRP 2008, 38 (3).**



Download tabulated summary spectra file here: www.mirdsoft.org/products/MIRDspecs/Am-244m Summary Spectrum.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/Am-244m Beta Spectrum.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/Am-244m Summary Spectrum.csv

Energy [MeV]	Yield [# / nt] if > 0.01	Radiation type
7.76477e-05	3.240e+00	X-ray
3.66021e-03	2.288e-02	X-ray
1.49784e-02	4.566e-02	X-ray
1.95388e-02	4.941e-02	X-ray
2.28564e-02	1.161e-02	X-ray
1.55567e-01	1.437e-02	Beta
4.95507e-01	3.080e-01	Beta
5.12031e-01	6.674e-01	Beta
9.71062e-05	9.168e-01	Auger electron

1.90660e-04	4.903e-01	Auger electron
2.79570e-04	8.502e-01	Auger electron
6.00151e-04	1.404e-01	Auger electron
1.80872e-03	3.008e-02	Auger electron
2.67736e-03	2.750e-01	Auger electron
3.27160e-03	6.092e-02	Auger electron
1.12729e-02	6.719e-02	Auger electron
1.50452e-02	3.555e-02	Auger electron
1.91890e-02	1.239e-01	Conversion electron
2.39710e-02	1.054e-01	Conversion electron
3.81360e-02	6.517e-02	Conversion electron
4.29650e-02	2.431e-02	Conversion 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