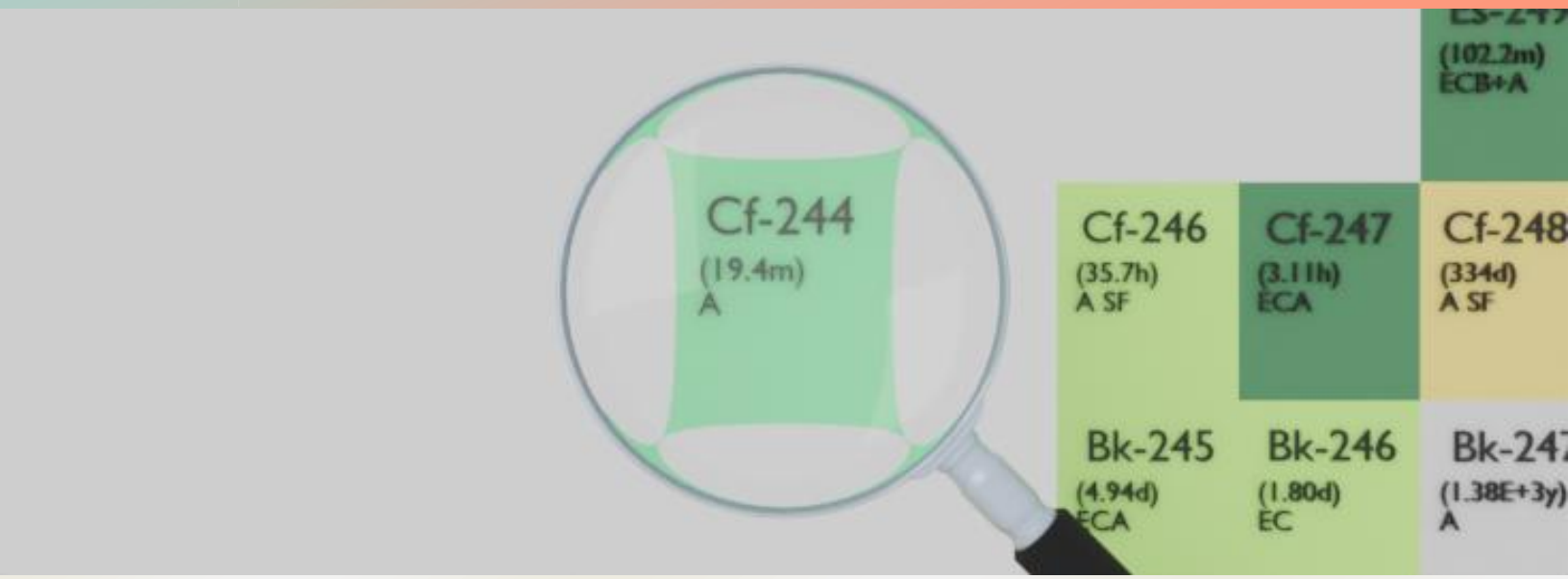


CALIFORNIUM-244

SUMMARY DATA

GENERAL

CLASSIFICATION

Isotope: Cf-244
Atomic number (Z): 98
Mass number (A): 244
Neutron number (N): 146

RADIOACTIVE DECAY

Decay modes: a
Half-life: 19.4 [m]
Decay constant: 5.9549e-04 [1/s]
Daughters: Cm-240 (100.0%)
Radioactive daughters: Cm-240

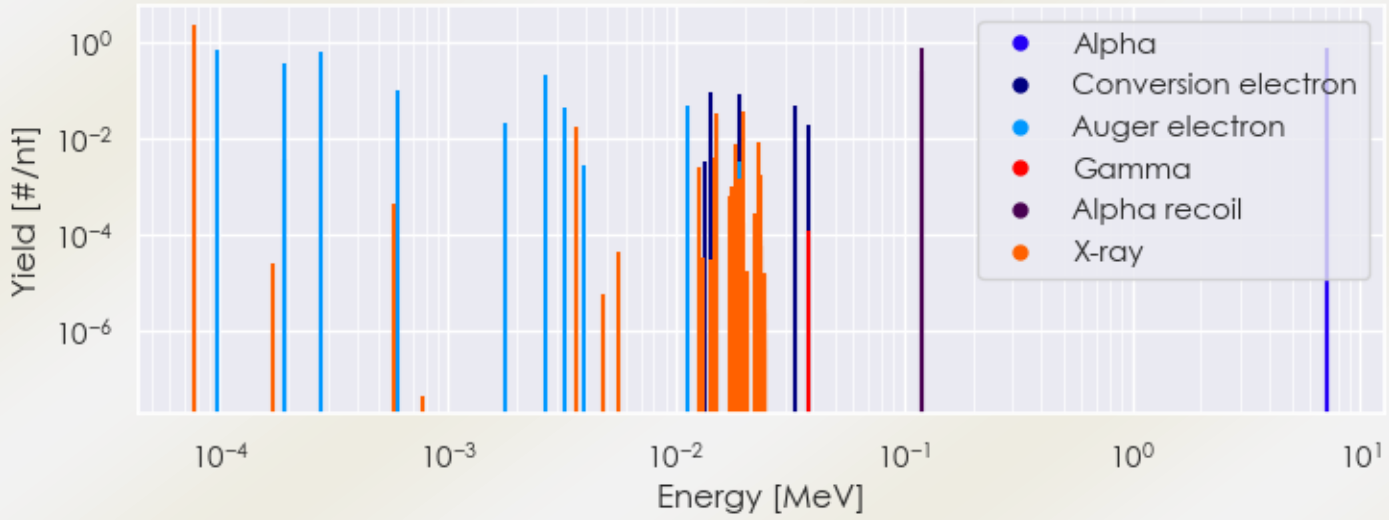
DOSIMETRIC CONSTANTS

Mean alpha energy: 7.3195 [MeV]
Mean electron energy: 0.0075 [MeV]
Mean photon energy: 0.00204 [MeV]
Air kerma rate constant, Γ_{10}*:* 1.923e-18 [Gy·m^2/Bq·s]
Air kerma coefficient, K_{air}*:* 1.923e-18 [Gy·m^2/Bq·s]
Equilibrium dose constant for weakly-penetrating radiations (a and/or electrons), Δ_{wp}*:* 1.174e-12 [Gy·kg/Bq·s]
Equilibrium dose constant for alphas, Δ_a*:* 1.173e-12 [Gy·kg/Bq·s]

Equilibrium dose constant for betas/electrons, $\Delta_{\beta^-,\beta^+,e^-}$: 1.202e-15 [Gy·kg/Bq·s]
Equilibrium dose constant for photons, Δ_p: 3.268e-16 [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/Cf-244 Summary 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/Cf-244 Summary Spectrum.csv

Energy [MeV]	Yield [#/nt] if > 0.01	Radiation type
7.76479e-05	2.410e+00	X-ray
3.66007e-03	1.701e-02	X-ray
1.49784e-02	3.423e-02	X-ray
1.95388e-02	3.653e-02	X-ray
9.71082e-05	6.820e-01	Auger electron
1.90643e-04	3.647e-01	Auger electron

2.79506e-04	6.325e-01	Auger electron
5.99037e-04	1.046e-01	Auger electron
1.79407e-03	2.130e-02	Auger electron
2.67730e-03	2.046e-01	Auger electron
3.27162e-03	4.532e-02	Auger electron
1.12532e-02	5.001e-02	Auger electron
1.42240e-02	9.365e-02	Conversion electron
1.50238e-02	2.646e-02	Auger electron
1.90060e-02	8.327e-02	Conversion electron
3.31710e-02	5.067e-02	Conversion electron
3.80000e-02	1.884e-02	Conversion electron
7.17150e+00	2.500e-01	Alpha
7.20887e+00	7.500e-01	Alpha
1.19603e-01	2.500e-01	Alpha recoil
1.20226e-01	7.500e-01	Alpha recoil

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