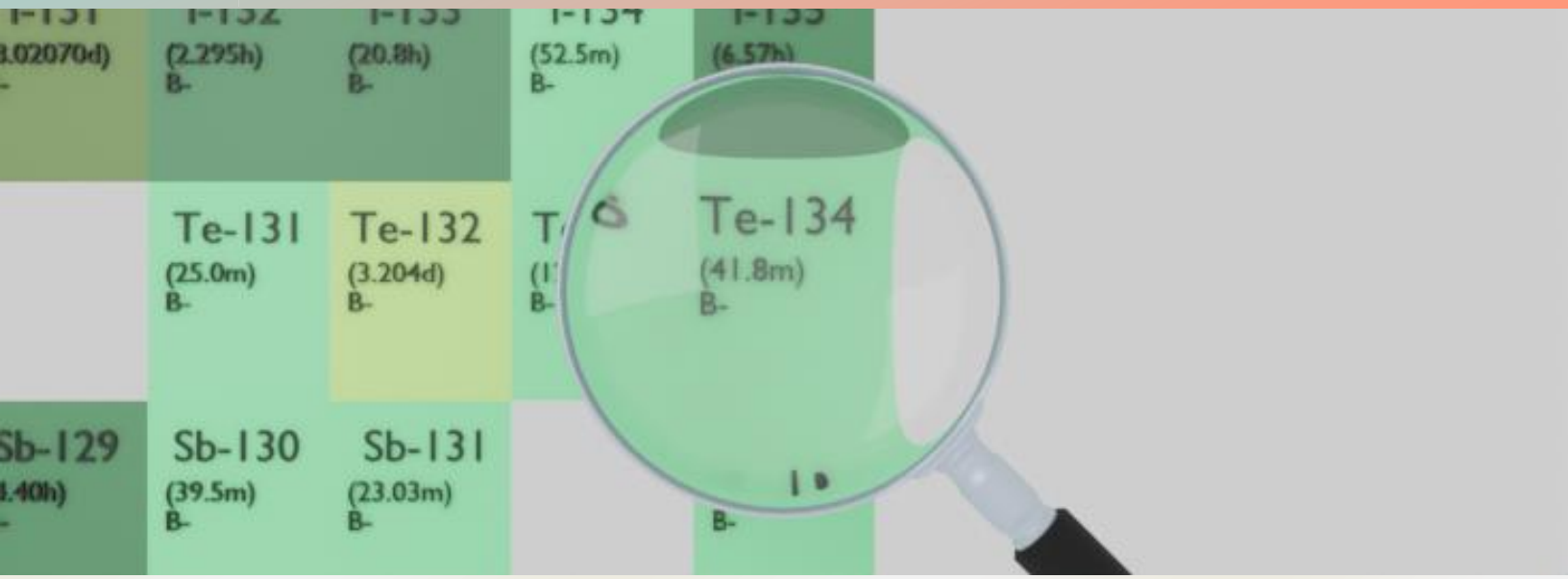


TELLURIUM-134

SUMMARY DATA

GENERAL

CLASSIFICATION

Isotope: Te-134
Atomic number (Z): 52
Mass number (A): 134
Neutron number (N): 82

RADIOACTIVE DECAY

Decay modes: β-
Half-life: 41.8 [m]
Decay constant: 2.7637e-04 [1/s]
Daughters: I-134 (100.0%)
Radioactive daughters: I-134

DOSIMETRIC CONSTANTS

Mean alpha energy: 0.0 [MeV]
Mean electron energy: 0.22655 [MeV]
Mean photon energy: 0.87139 [MeV]
Air kerma rate constant, Γ_{10}: 3.363e-17 [Gy·m^2/Bq·s]
Air kerma coefficient, K_{air}: 3.363e-17 [Gy·m^2/Bq·s]
Equilibrium dose constant for weakly-penetrating radiations (a and/or electrons), Δ_{wp}: 3.630e-14 [Gy·kg/Bq·s]
Equilibrium dose constant for alphas, Δ_{a}: 0.000e+00 [Gy·kg/Bq·s]

Equilibrium dose constant for betas/electrons, $\Delta_{\beta-,\beta+,e-}$: 3.630e-14 [Gy·kg/Bq·s]
Equilibrium dose constant for photons, Δ_{p}: 1.396e-13 [Gy·kg/Bq·s]

DOSE POINT KERNELS (PLOT)

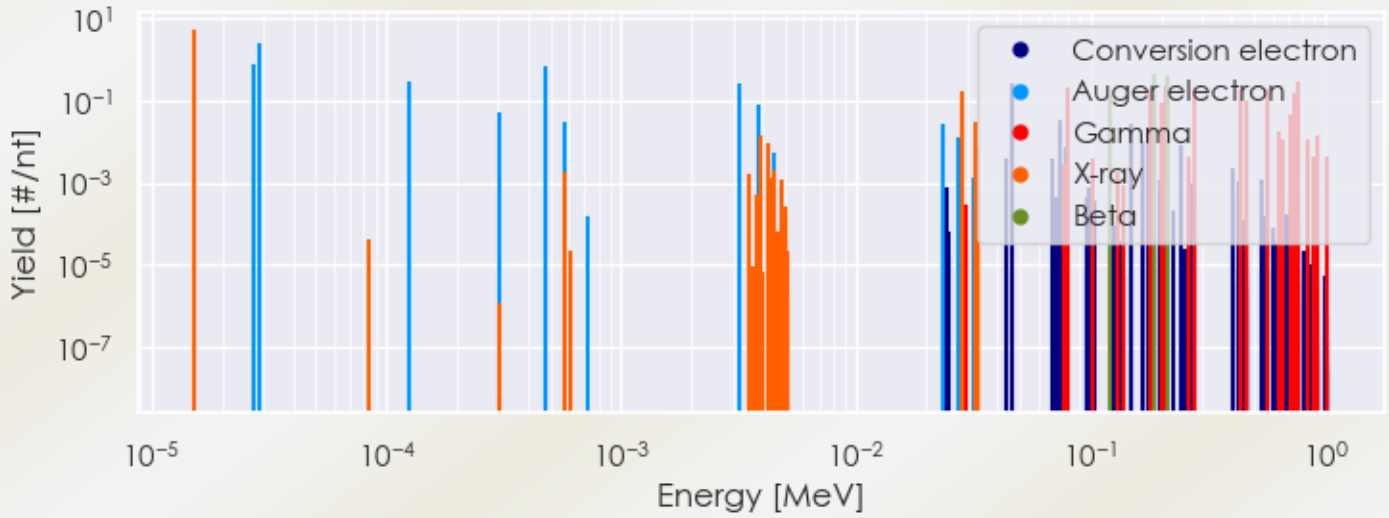
Dose point kernel source: **Graves, et al. Medical Physics. 2019 Nov.; 46(11):5284-5293.**

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/Te-134 DPK.csv

SUMMARY SPECTRA (PLOT)

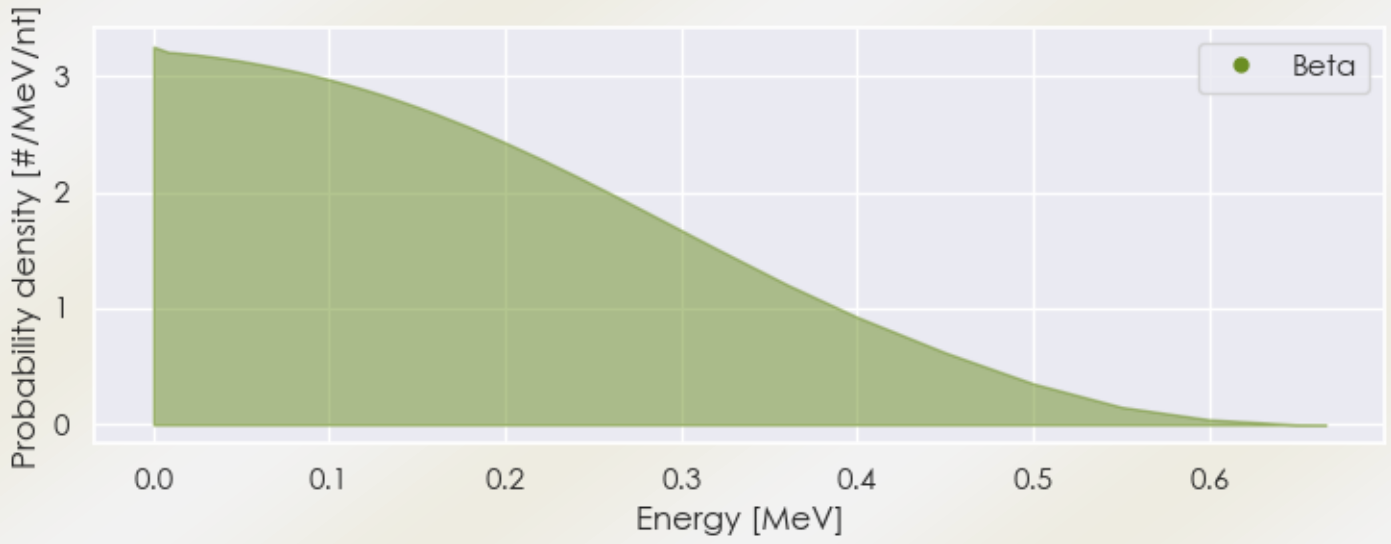
Spectra source: **ICRP Publication 107: Nuclear Decay Data for Dosimetric Calculations. Ann. ICRP 2008, 38 (3).**



Download tabulated summary spectra file here: www.mirdsoft.org/products/MIRDspecs/Te-134 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/Te-134 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/Te-134 Summary Spectrum.csv

Energy [MeV]	Yield [#/nt] if > 0.01	Radiation type
1.52659e-05	5.132e+00	X-ray
3.92520e-03	1.502e-02	X-ray
2.83065e-02	9.037e-02	X-ray
2.86096e-02	1.678e-01	X-ray
3.22368e-02	1.560e-02	X-ray
3.22942e-02	3.026e-02	X-ray
7.94450e-02	2.094e-01	Gamma
1.80891e-01	1.829e-01	Gamma
2.01235e-01	8.850e-02	Gamma
2.10465e-01	2.271e-01	Gamma

2.77951e-01	2.124e-01	Gamma
4.35060e-01	1.888e-01	Gamma
4.60997e-01	9.735e-02	Gamma
4.64640e-01	4.720e-02	Gamma
5.65992e-01	1.858e-01	Gamma
6.36260e-01	1.682e-02	Gamma
6.65850e-01	1.180e-02	Gamma
7.12970e-01	4.720e-02	Gamma
7.42586e-01	1.534e-01	Gamma
7.67200e-01	2.950e-01	Gamma
8.44060e-01	1.180e-02	Gamma
9.25550e-01	1.475e-02	Gamma
1.20893e-01	1.400e-01	Beta
1.85650e-01	4.400e-01	Beta
2.14195e-01	4.200e-01	Beta
2.70144e-05	7.690e-01	Auger electron
2.89504e-05	2.473e+00	Auger electron
1.25047e-04	2.833e-01	Auger electron
3.05784e-04	5.435e-02	Auger electron
4.76941e-04	6.592e-01	Auger electron
5.78410e-04	3.137e-02	Auger electron
3.20490e-03	2.588e-01	Auger electron
3.83958e-03	7.646e-02	Auger electron
2.35598e-02	2.713e-02	Auger electron
2.75866e-02	1.215e-02	Auger electron
4.62810e-02	2.692e-01	Conversion electron
7.42831e-02	3.228e-02	Conversion electron
1.47727e-01	2.831e-02	Conversion electron
1.77301e-01	2.229e-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