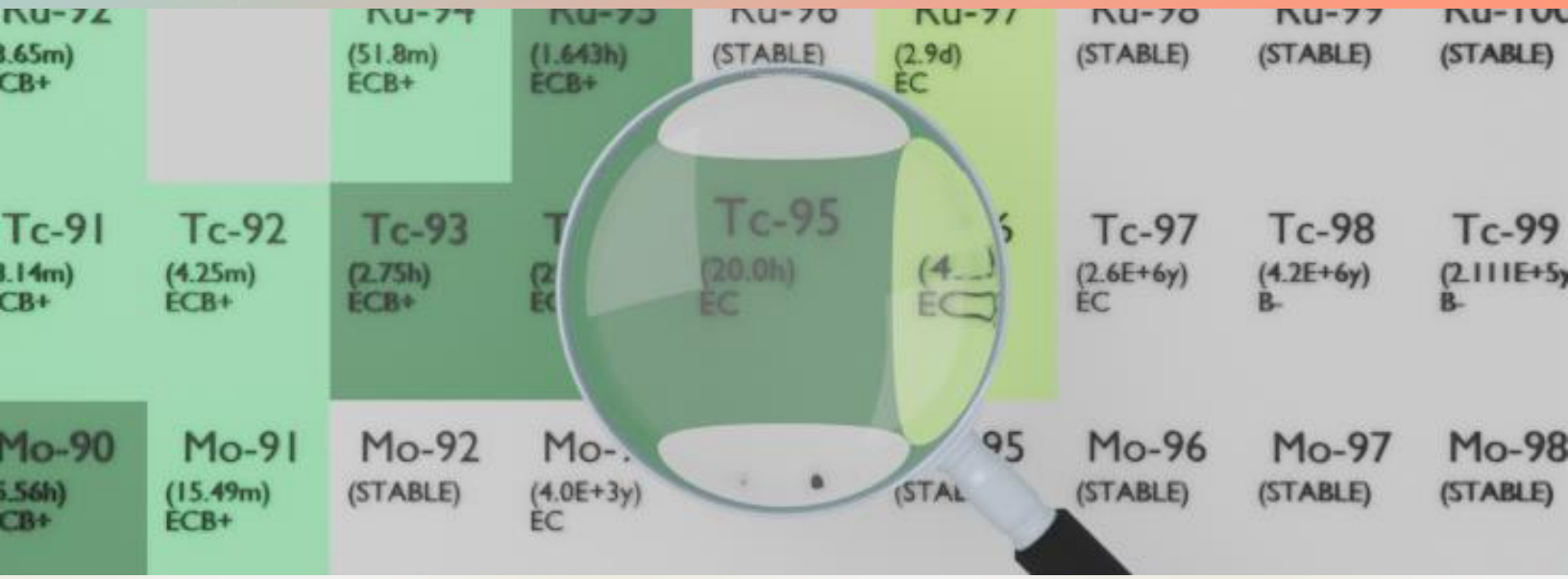


TECHNETIUM-95

SUMMARY DATA

GENERAL

CLASSIFICATION

Isotope: Tc-95
Atomic number (Z): 43
Mass number (A): 95
Neutron number (N): 52

RADIOACTIVE DECAY

Decay modes: Electron capture
Half-life: 20.0 [h]
Decay constant: 9.6270e-06 [1/s]
Daughters: Mo-95 (100.0%)
Radioactive daughters: None

DOSIMETRIC CONSTANTS

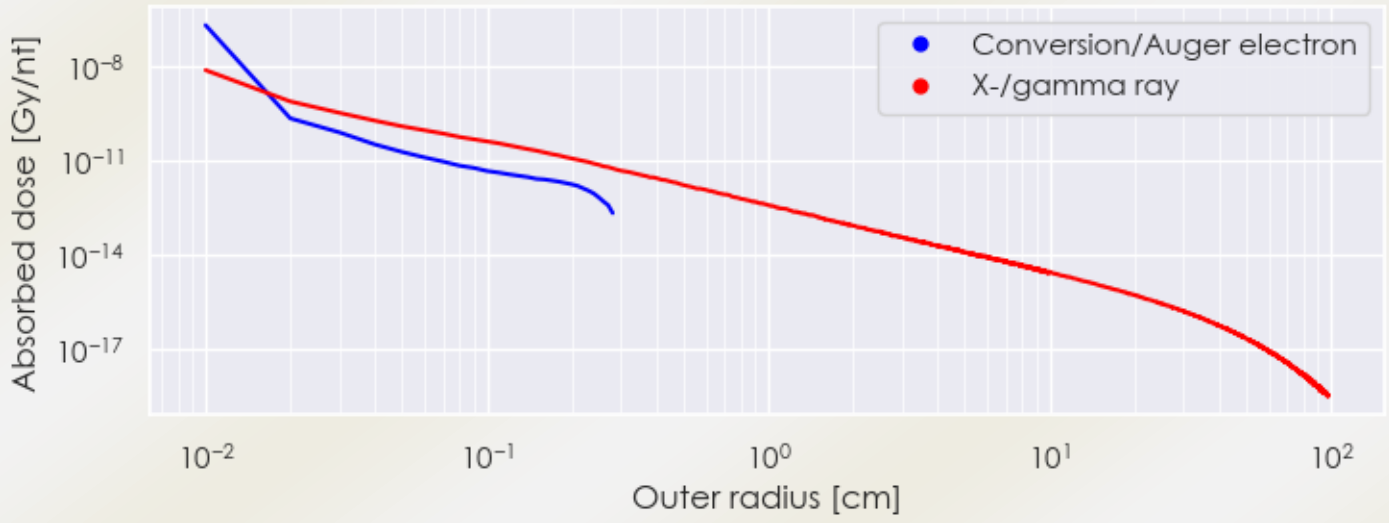
Mean alpha energy: 0.0 [MeV]
Mean electron energy: 0.00685 [MeV]
Mean photon energy: 0.79647 [MeV]
Air kerma rate constant, Γ_{10}: 4.076e-17 [Gy·m^2/Bq·s]
Air kerma coefficient, K_{air}: 4.076e-17 [Gy·m^2/Bq·s]
Equilibrium dose constant for weakly-penetrating radiations (a and/or electrons), Δ_{wp}: 1.097e-15 [Gy·kg/Bq·s]
Equilibrium dose constant for alphas, Δ_{a}: 0.000e+00 [Gy·kg/Bq·s]

Equilibrium dose constant for betas/electrons, $\Delta_{\beta-,\beta+,e-}$: 1.097e-15 [Gy·kg/Bq·s]
Equilibrium dose constant for photons, Δ_{p}: 1.276e-13 [Gy·kg/Bq·s]

DOSE POINT KERNELS (PLOT)

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

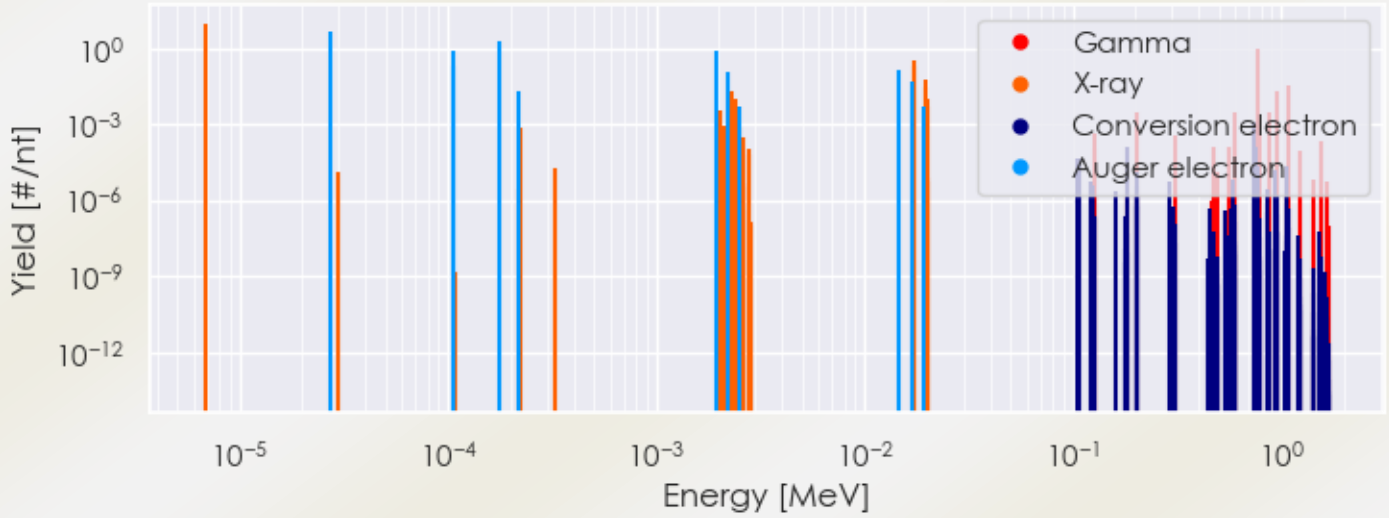
Note: Bins are spaced every 0.1 mm until a radius of 10 cm, and every 1 mm until a radius of 2 m.



Download tabulated dose point kernel file here: www.mirdsoft.org/products/MIRDspecs/Tc-95 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/Tc-95 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/Tc-95 Summary Spectrum.csv

Energy [MeV]	Yield [#/nt] if > 0.01	Radiation type
6.84801e-06	1.010e+01	X-ray
2.28400e-03	2.083e-02	X-ray
1.73355e-02	1.920e-01	X-ray
1.74440e-02	3.658e-01	X-ray
1.95554e-02	2.980e-02	X-ray
1.95734e-02	5.802e-02	X-ray
1.99225e-02	1.060e-02	X-ray
7.65789e-01	9.382e-01	Gamma
9.47670e-01	1.951e-02	Gamma
1.07371e+00	3.743e-02	Gamma
2.73600e-05	4.676e+00	Auger electron
1.06645e-04	8.895e-01	Auger electron
1.06880e-04	1.989e-01	Auger electron
1.76249e-04	2.131e+00	Auger electron
2.18196e-04	2.042e-02	Auger electron
1.95198e-03	8.482e-01	Auger electron
2.20130e-03	1.201e-01	Auger electron
1.47064e-02	1.463e-01	Auger electron
1.69714e-02	5.420e-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