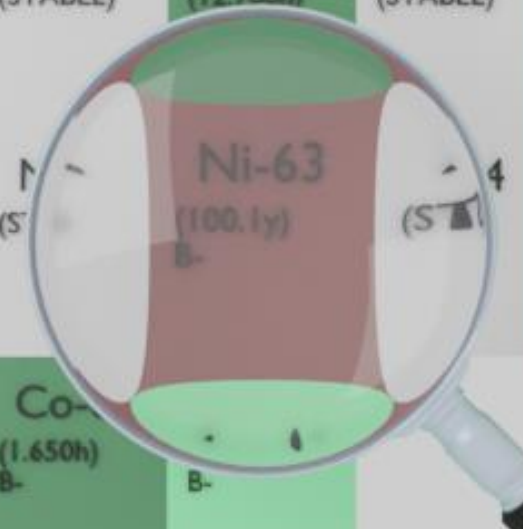




Cu-60 (23.7m) CB+	Cu-61 (3.333h) ECB+	Cu-62 (9.673m) ECB+	Cu-63 (STABLE)	Cu-64 (12.700h)	Cu-65 (STABLE)	Cu-66 (5.120m) B-	Cu-67 (61.83h) B-
Ni-59 (1.01E+5y) CB+	Ni-60 (STABLE)	Ni-61 (STABLE)	Ni-62 (STABLE)	Ni-63 (100.1y) B-	Ni-64 (STABLE)	Ni-65 (2.51719h) B-	Ni-66 (54.6h) B-
Co-58 (70.86d) CB+	Co-59 (STABLE)	Co-60 (5.2713y) B-	Co-61 (1.650h) B-	Co-62 (1.48E+6y) B-	Co-63 (STABLE)	Co-64 (1.92E+3y) B-	Co-65 (17.52h) B-

NICKEL-63

SUMMARY DATA

GENERAL

CLASSIFICATION

Isotope: Ni-63
Atomic number (Z): 28
Mass number (A): 63
Neutron number (N): 35

RADIOACTIVE DECAY

Decay modes: β^-
Half-life: 100.1 [y]
Decay constant: $2.1943\text{e-}10$ [1/s]
Daughters: Cu-63 (100.0%)
Radioactive daughters: None

DOSIMETRIC CONSTANTS

Mean alpha energy: 0.0 [MeV]
Mean electron energy: 0.01742 [MeV]
Mean photon energy: 0.0 [MeV]
Air kerma rate constant, Γ_{10} : $0.000\text{e+}00$ [$\text{Gy} \cdot \text{m}^2/\text{Bq} \cdot \text{s}$]
Air kerma coefficient, K_{air} : $0.000\text{e+}00$ [$\text{Gy} \cdot \text{m}^2/\text{Bq} \cdot \text{s}$]
Equilibrium dose constant for weakly-penetrating radiations (α and/or electrons), Δ_{wp} : $2.791\text{e-}15$ [$\text{Gy} \cdot \text{kg}/\text{Bq} \cdot \text{s}$]
Equilibrium dose constant for alphas, Δ_{α} : $0.000\text{e+}00$ [$\text{Gy} \cdot \text{kg}/\text{Bq} \cdot \text{s}$]

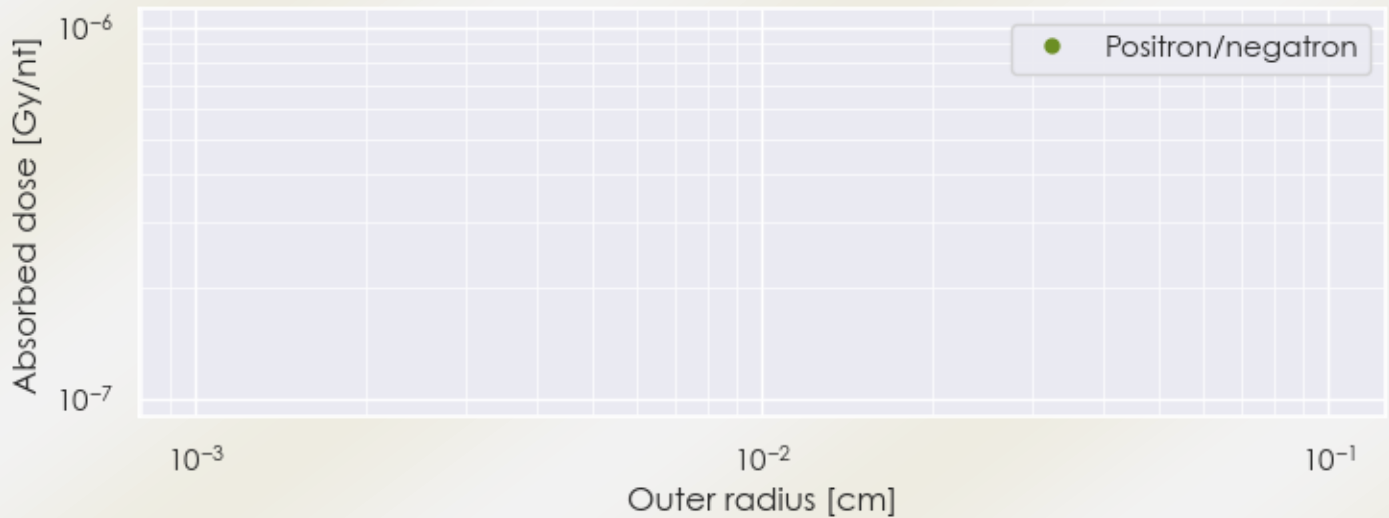
Equilibrium dose constant for betas/electrons, $\Delta_{\beta-, \beta+, e-}$: 2.791e-15 [Gy·kg/Bq·s]

Equilibrium dose constant for photons, Δ_p : 0.000e+00 [Gy·kg/Bq·s]

DOSE POINT KERNELS (PLOT)

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

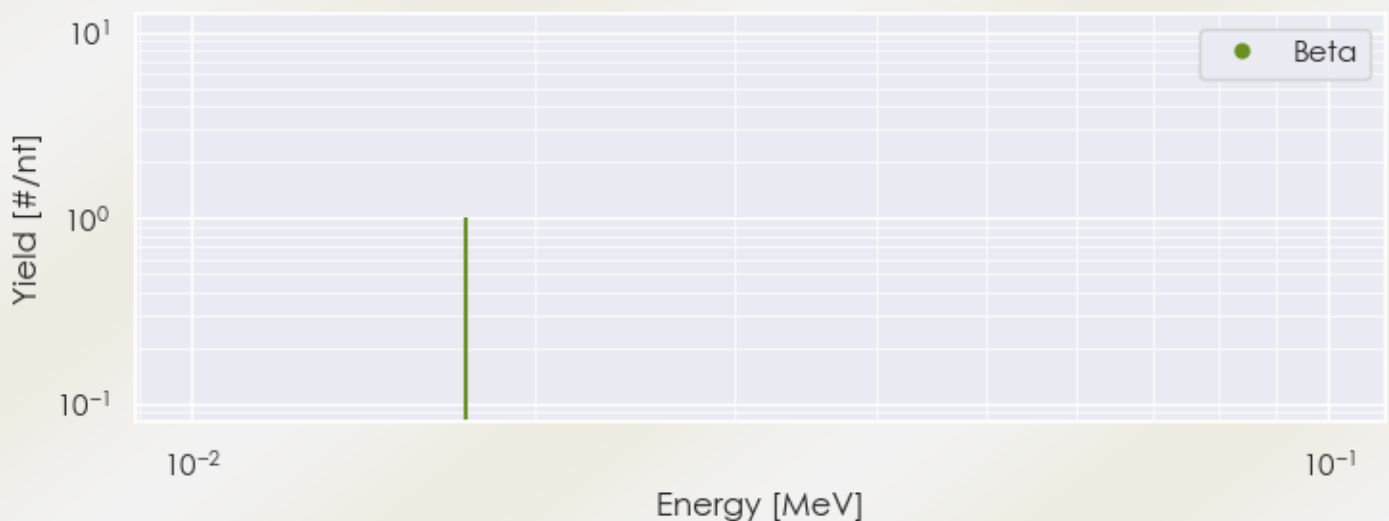
Note: Bins are spaced every 0.1 mm until a radius of 10 cm, and every 1 mm until a radius of 2 m.



Download tabulated dose point kernel file here: www.mirdsoft.org/products/MIRDspecs/Ni-63 DPK.csv

SUMMARY SPECTRA (PLOT)

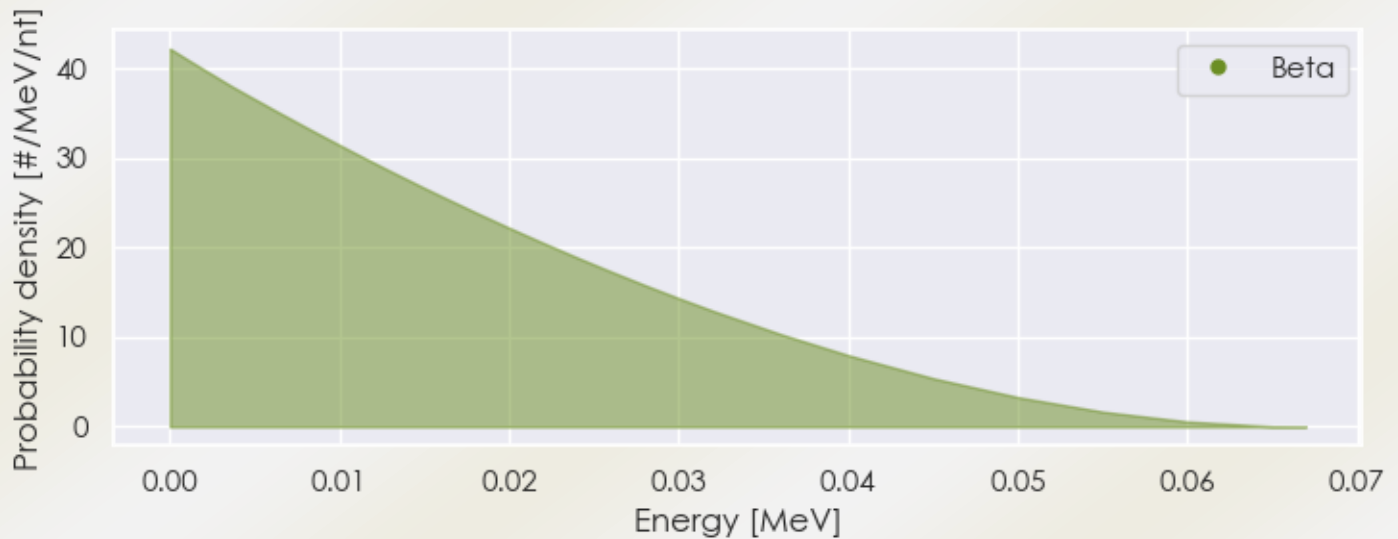
Spectra source: **ICRP Publication 107: Nuclear Decay Data for Dosimetric Calculations. Ann. ICRP 2008, 38 (3).**



Download tabulated summary spectra file here: www.mirdsoft.org/products/MIRDspecs/Ni-63 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/Ni-63 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/Ni-63 Summary Spectrum.csv

Energy [MeV]	Yield [# / nt] if > 0.01	Radiation type
1.74220e-02	1.000e+00	Beta

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/SNMML-MAIN/iCore/Store/StoreLayouts/Item_Detail.aspx?iProductCode=0-932004-80-6