



	Ge-66 (2.26h) ECB+	Ge-67 (18.9m) ECB+	Ge-68 (270.95d) EC	Ge-69 (39.05h) (S)	Ge-70 (STABLE)	Ge-71 (11.43d) EC	Ge-72 (STABLE)	Ge-73 (STABLE)
Ga-64 (2.627m) CB+	Ga-65 (15.2m) ECB+	Ga-66 (9.49h) ECB+	Ga-67 (3.26d) EC	Ga-68 (67.71m) ECB+	Ga-69 (36.96h) B-	Ga-70 (21.14m) B-EC	Ga-71 (STABLE)	Ga-72 (14.10h) B-
Zn-63 (38.47m) CB+	Zn-64 (STABLE)	Zn-65 (244.06d) ECB+	Zn-66 (5.26d) EC	Zn-67 (4.15h) EC	Zn-68 (STABLE)	Zn-69 (56.4m) B-	Zn-70 (STABLE)	Zn-71 (2.45m) B-

GALLIUM-68

SUMMARY DATA

GENERAL

CLASSIFICATION

Isotope: Ga-68
Atomic number (Z): 31
Mass number (A): 68
Neutron number (N): 37

RADIOACTIVE DECAY

Decay modes: β^+ , Electron capture
Half-life: 67.71 [m]
Decay constant: $1.7062\text{e-}04$ [1/s]
Daughters: Zn-68 (100.0%)
Radioactive daughters: None

DOSIMETRIC CONSTANTS

Mean alpha energy: 0.0 [MeV]
Mean electron energy: 0.73794 [MeV]
Mean photon energy: 0.94869 [MeV]
Air kerma rate constant, Γ_{10} : $1.381\text{e-}18$ [Gy $\cdot$ m²/Bq $\cdot$ s]
Air kerma coefficient, K_{air} : $3.580\text{e-}17$ [Gy $\cdot$ m²/Bq $\cdot$ s]
Equilibrium dose constant for weakly-penetrating radiations (α and/or electrons), Δ_{wp} : $1.182\text{e-}13$ [Gy $\cdot$ kg/Bq $\cdot$ s]
Equilibrium dose constant for alphas, Δ_{α} : $0.000\text{e+}00$ [Gy $\cdot$ kg/Bq $\cdot$ s]

Equilibrium dose constant for betas/electrons, $\Delta_{\beta,\beta^+,e^-}$: 1.182×10^{-13} [Gy·kg/Bq·s]

Equilibrium dose constant for photons, Δ_p : 1.520×10^{-13} [Gy·kg/Bq·s]

DOSE POINT KERNELS (PLOT)

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

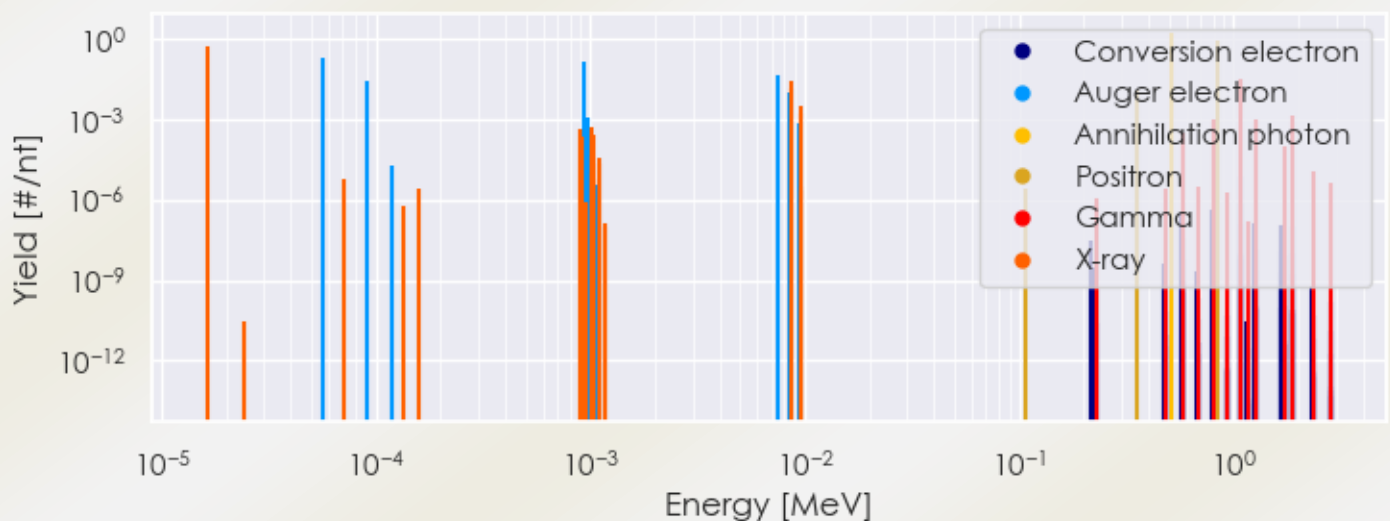
Note: Bins are spaced every 0.1 mm until a radius of 10 cm, and every 1 mm until a radius of 2 m.



Download tabulated dose point kernel file here: www.mirdsoft.org/products/MIRDspecs/Ga-68 DPK.csv

SUMMARY SPECTRA (PLOT)

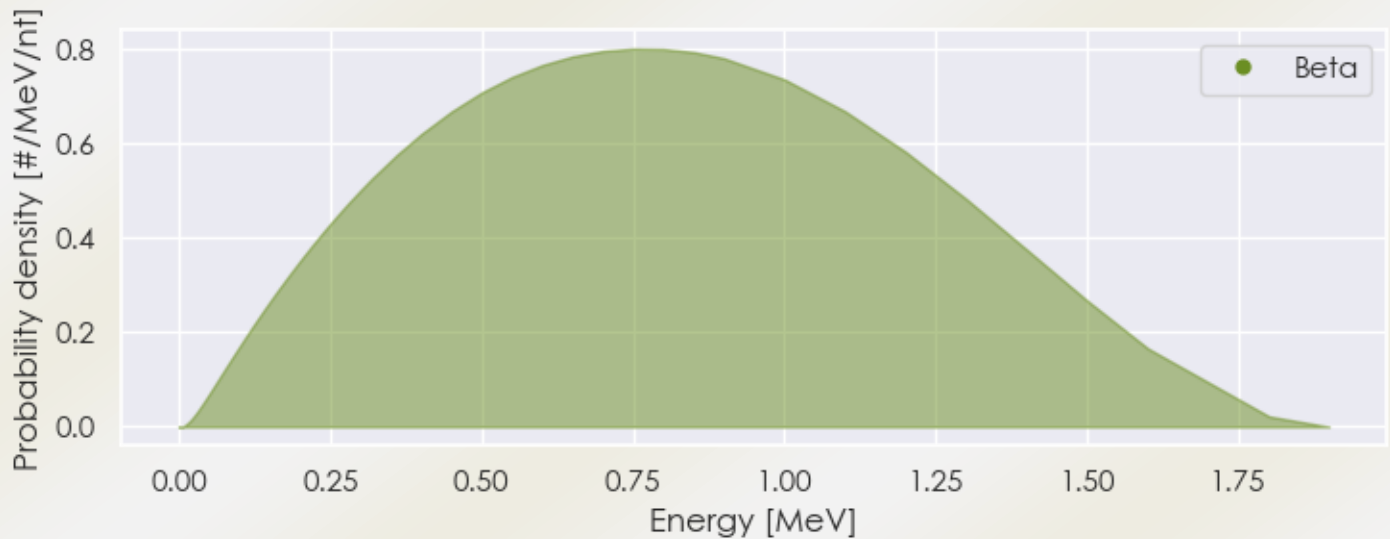
Spectra source: **ICRP Publication 107: Nuclear Decay Data for Dosimetric Calculations. Ann. ICRP 2008, 38 (3).**



Download tabulated summary spectra file here: www.mirdsoft.org/products/MIRDspecs/Ga-68 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/Ga-68 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/Ga-68 Summary Spectrum.csv

Energy [MeV]	Yield [# /nt] if > 0.01	Radiation type
1.63538e-05	5.217e-01	X-ray
8.57190e-03	1.379e-02	X-ray
8.59639e-03	2.686e-02	X-ray
5.11000e-01	1.778e+00	Annihilation photon
1.07734e+00	3.220e-02	Gamma
3.52606e-01	1.190e-02	Positron
8.35818e-01	8.772e-01	Positron
5.67753e-05	1.889e-01	Auger electron
8.98614e-05	2.658e-02	Auger electron
9.29539e-04	1.418e-01	Auger electron

7.48697e-03	4.115e-02	Auger electron
8.45549e-03	1.051e-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/SNMML-MAIN/iCore/Store/StoreLayouts/Item_Detail.aspx?iProductCode=0-932004-80-6