



Gd-147 (1.118h) ECB+A	Gd-148 (3.48h) ECB+A	Gd-149 (17.609h) ECB+A	Gd-150 (17.5h) ECB+	Gd-152 (1.08E+14y) A	Gd-153 (2.34d) ECB+	Gd-154 (21.5h) ECB+	Gd-155 (5.32d) EC	Gd-156 (5.35d) EC	Gd-157 (71y) EC
Gd-148 (4.6y) ECB+	Gd-149 (9.28d) ECB+	Gd-150 (1.79E+6y) A	Gd-151 (1.1E+11y) ECB+	Gd-152 (1.08E+14y) A	Gd-153 (2.34d) ECB+	Gd-154 (STABLE)	Gd-155 (STABLE)	Gd-156 (STABLE)	Gd-157 (STABLE)
Eu-147 (4.1d) ECB+A	Eu-148 (54.5d) ECB+A	Eu-149 (93.1d) EC	Eu-150 (36.9y) ECB+	Eu-151 (13.5y) ECB+B-	Eu-152 (13.5y) ECB+B-	Eu-153 (STABLE)	Eu-154 (8.593y) B-EC	Eu-155 (4.7611y) B-	Eu-156 (4.7611y) B-

GADOLINIUM-152

SUMMARY DATA

GENERAL

CLASSIFICATION

Isotope: Gd-152
Atomic number (Z): 64
Mass number (A): 152
Neutron number (N): 88

RADIOACTIVE DECAY

Decay modes: α
Half-life: 108000000000000.0 [y]
Decay constant: 2.0338e-22 [1/s]
Daughters: Sm-148 (100.0%)
Radioactive daughters: Sm-148

DOSIMETRIC CONSTANTS

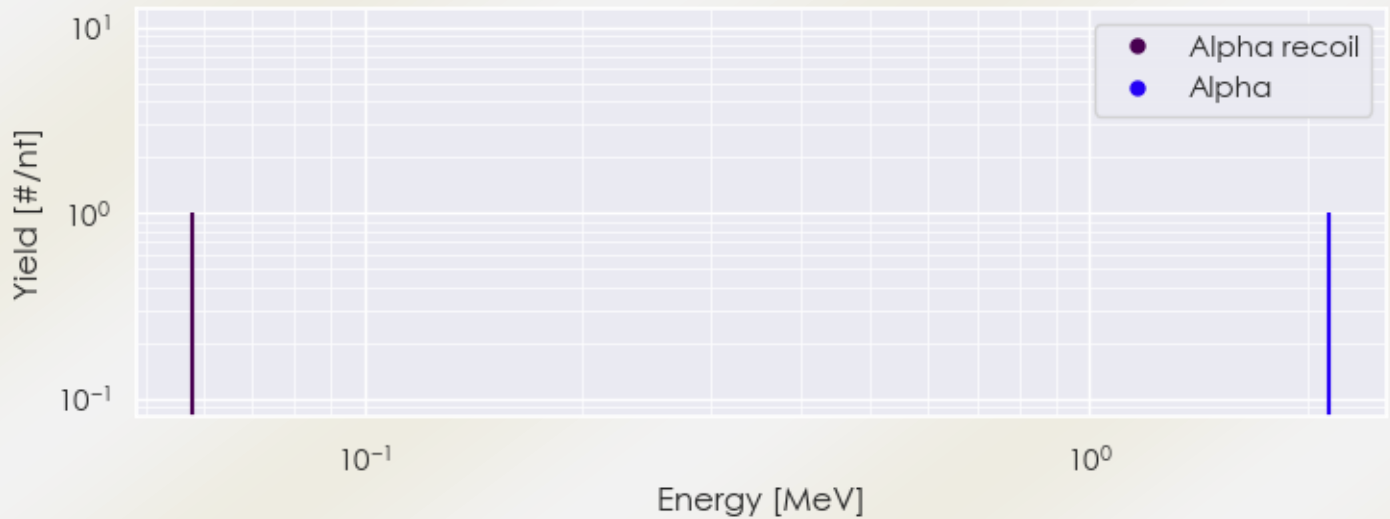
Mean alpha energy: 2.2046 [MeV]
Mean electron energy: 0.0 [MeV]
Mean photon energy: 0.0 [MeV]
Air kerma rate constant, Γ_{10} : 0.000e+00 [Gy·m²/Bq·s]
Air kerma coefficient, K_{air} : 0.000e+00 [Gy·m²/Bq·s]
Equilibrium dose constant for weakly-penetrating radiations (α and/or electrons), Δ_{wp} : 3.532e-13 [Gy·kg/Bq·s]
Equilibrium dose constant for alphas, Δ_{α} : 3.532e-13 [Gy·kg/Bq·s]

Equilibrium dose constant for betas/electrons, $\Delta_{\beta-\beta+,e-}$: 0.000e+00 [Gy·kg/Bq·s]

Equilibrium dose constant for photons, Δ_p : 0.000e+00 [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/Gd-152 Summary Spectrum.csv](http://www.mirdsoft.org/products/MIRDspecs/Gd-152%20Summary%20Spectrum.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/Gd-152 Summary Spectrum.csv](http://www.mirdsoft.org/products/MIRDspecs/Gd-152%20Summary%20Spectrum.csv)

Energy [MeV]	Yield [# /nt] if > 0.01	Radiation type
2.14655e+00	1.000e+00	Alpha
5.80525e-02	1.000e+00	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/SNMML-MAIN/iCore/Store/StoreLayouts/Item_Detail.aspx?iProductCode=0-932004-80-6