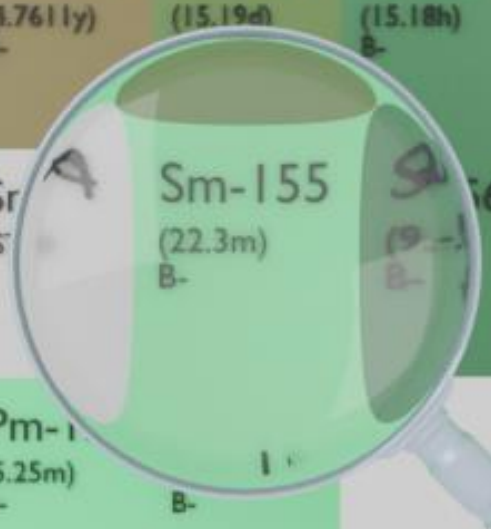




Eu-152 (3.537y) CB+B-	Eu-153 (STABLE)	Eu-154 (8.593y) B-EC	Eu-155 (4.7611y) B-	Eu-156 (15.19d) B-	Eu-157 (15.18h) B-	Eu-158 (45.9m) B-	Eu-159 (18.1m) B-
Sm-151 (0y) B-	Sm-152 (STABLE)	Sm-153 (46.50h) B-	Sm-154 (5.25m) B-	Sm-155 (22.3m) B-	Sm-156 (9.19m) B-	Sm-157 (8.03m) B-	
Pm-150 (2.68h) B-	Pm-151 (28.40h) B-	Pm-152 (4.12m) B-	Pm-153 (5.25m) B-	Pm-154 (5.25m) B-			

SAMARIUM-155

SUMMARY DATA

GENERAL

CLASSIFICATION

Isotope: Sm-155
Atomic number (Z): 62
Mass number (A): 155
Neutron number (N): 93

RADIOACTIVE DECAY

Decay modes: β^-
Half-life: 22.3 [m]
Decay constant: 5.1805e-04 [1/s]
Daughters: Eu-155 (100.0%)
Radioactive daughters: Eu-155

DOSIMETRIC CONSTANTS

Mean alpha energy: 0.0 [MeV]
Mean electron energy: 0.56737 [MeV]
Mean photon energy: 0.10294 [MeV]
Air kerma rate constant, Γ_{10} : 3.542e-18 [Gy·m²/Bq·s]
Air kerma coefficient, K_{air} : 3.542e-18 [Gy·m²/Bq·s]
Equilibrium dose constant for weakly-penetrating radiations (α and/or electrons), Δ_{wp} : 9.090e-14 [Gy·kg/Bq·s]
Equilibrium dose constant for alphas, Δ_{α} : 0.000e+00 [Gy·kg/Bq·s]

Equilibrium dose constant for betas/electrons, $\Delta_{\beta, \beta^+, e^-}$: 9.090×10^{-14} [Gy·kg/Bq·s]

Equilibrium dose constant for photons, Δ_p : 1.649×10^{-14} [Gy·kg/Bq·s]

DOSE POINT KERNELS (PLOT)

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

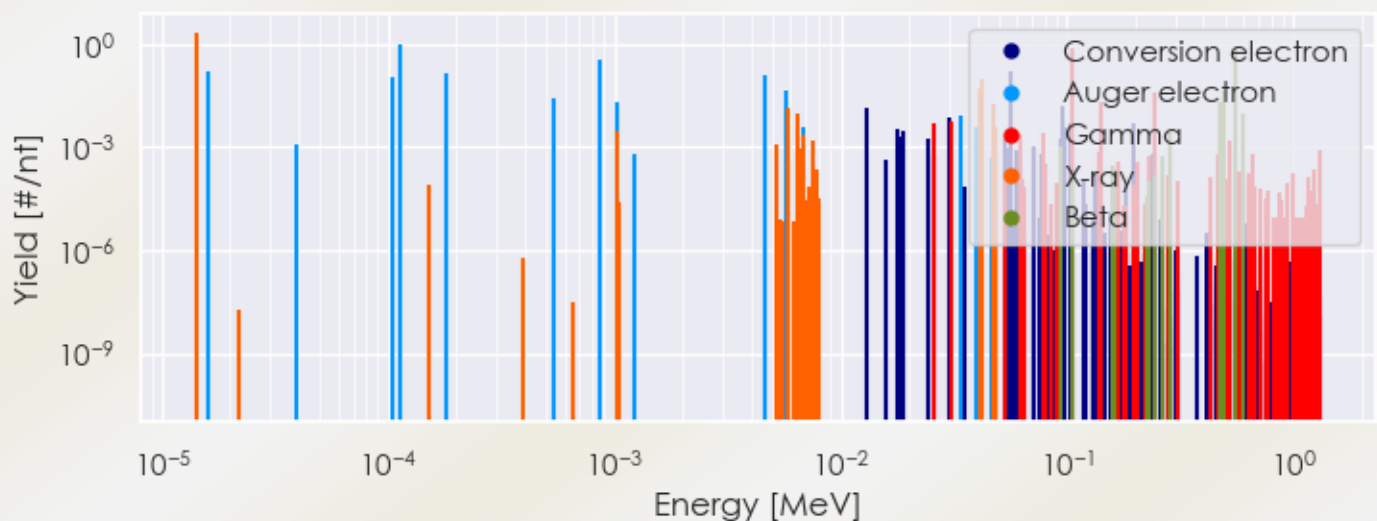
Note: Bins are spaced every 0.1 mm until a radius of 10 cm, and every 1 mm until a radius of 2 m.



Download tabulated dose point kernel file here: www.mirdsoft.org/products/MIRDspecs/Sm-155 DPK.csv

SUMMARY SPECTRA (PLOT)

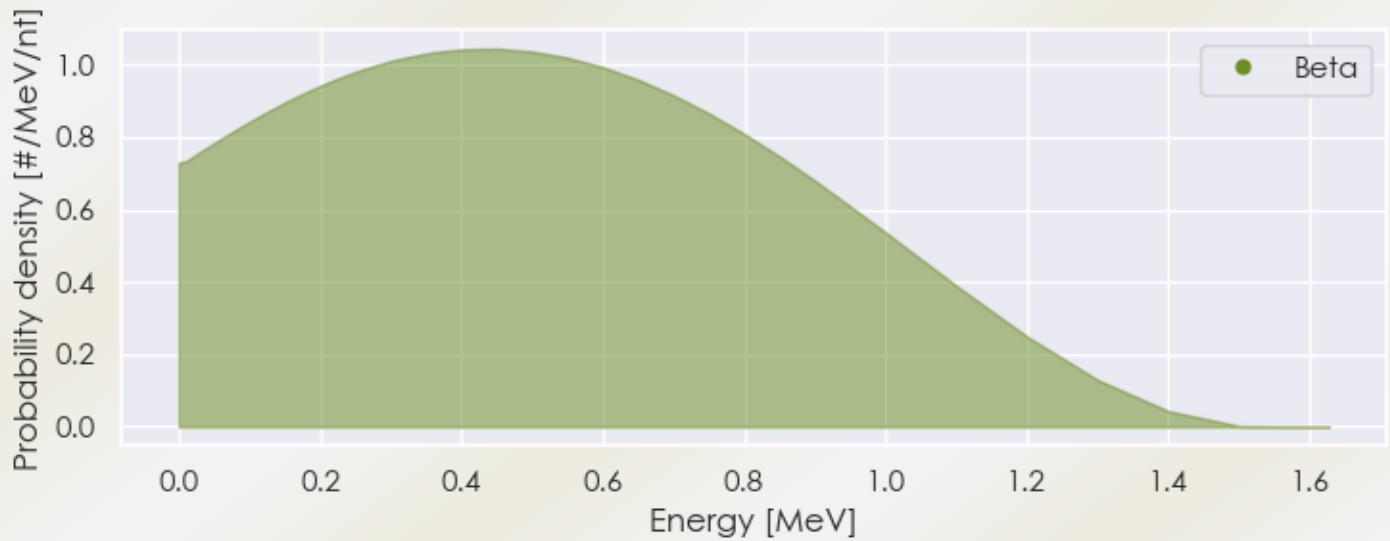
Spectra source: **ICRP Publication 107: Nuclear Decay Data for Dosimetric Calculations. Ann. ICRP 2008, 38 (3).**



Download tabulated summary spectra file here: www.mirdsoft.org/products/MIRDspecs/Sm-155 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/Sm-155 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/Sm-155 Summary Spectrum.csv

Energy [MeV]	Yield [# / nt] if > 0.01	Radiation type
1.42233e-05	2.230e+00	X-ray
5.83100e-03	1.449e-02	X-ray
4.09430e-02	5.029e-02	X-ray
4.15992e-02	9.071e-02	X-ray
4.70984e-02	1.771e-02	X-ray
1.04320e-01	7.460e-01	Gamma
1.41411e-01	1.977e-02	Gamma
2.45730e-01	3.730e-02	Gamma
4.70862e-01	2.153e-02	Beta
4.96776e-01	4.237e-02	Beta

5.56922e-01	9.207e-01	Beta
1.58398e-05	1.576e-01	Auger electron
1.04841e-04	1.081e-01	Auger electron
1.13044e-04	9.614e-01	Auger electron
1.79273e-04	1.515e-01	Auger electron
5.37113e-04	2.797e-02	Auger electron
8.53648e-04	3.308e-01	Auger electron
1.02541e-03	2.036e-02	Auger electron
4.61266e-03	1.220e-01	Auger electron
5.71306e-03	4.202e-02	Auger electron
1.29820e-02	1.406e-02	Conversion electron
5.57520e-02	1.591e-01	Conversion electron
9.63019e-02	1.647e-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