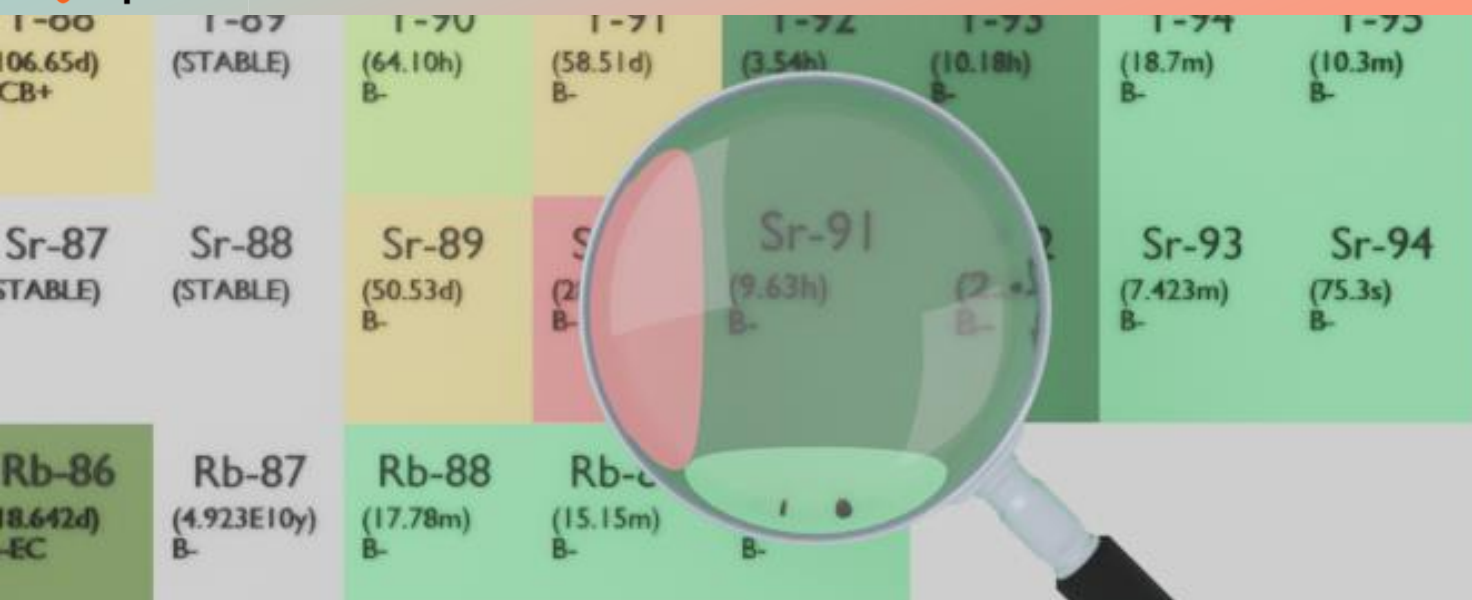




STRONTIUM-91

SUMMARY DATA

GENERAL

CLASSIFICATION

Isotope: Sr-91
Atomic number (Z): 38
Mass number (A): 91
Neutron number (N): 53

RADIOACTIVE DECAY

Decay modes: β^-
Half-life: 9.63 [h]
Decay constant: 1.9994×10^{-5} [1/s]
Daughters: Y-91m (58.2%), Y-91 (41.8%)
Radioactive daughters: Y-91m, Y-91

DOSIMETRIC CONSTANTS

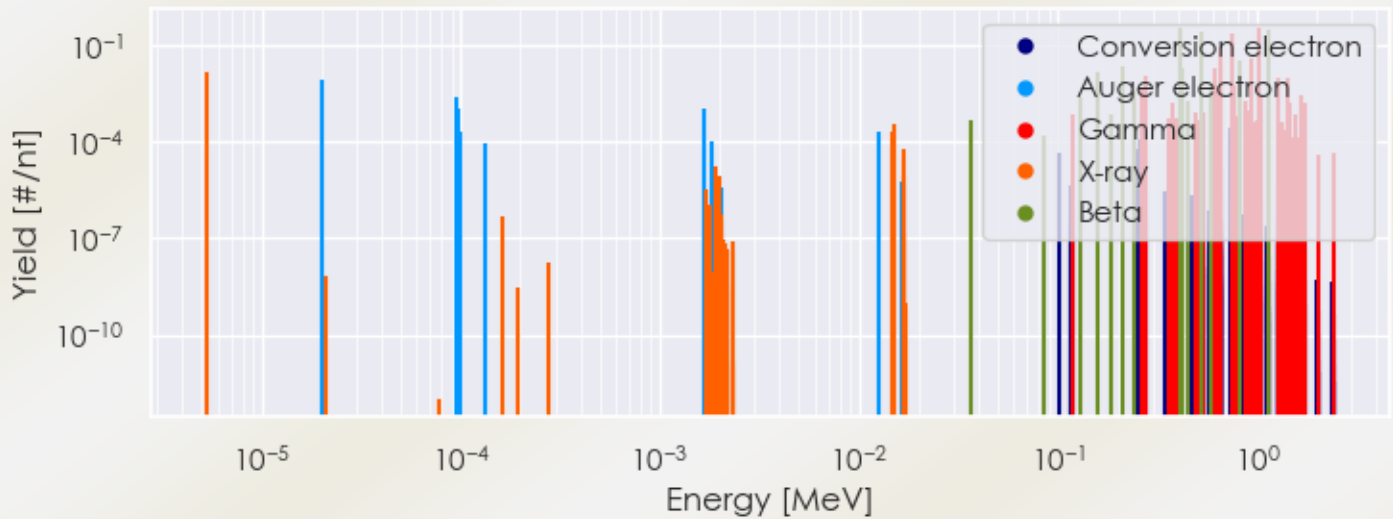
Mean alpha energy: 0.0 [MeV]
Mean electron energy: 0.65493 [MeV]
Mean photon energy: 0.70716 [MeV]
Air kerma rate constant, Γ_{10} : 2.553×10^{-17} [Gy $\cdot$ m²/Bq $\cdot$ s]
Air kerma coefficient, K_{air} : 2.553×10^{-17} [Gy $\cdot$ m²/Bq $\cdot$ s]
Equilibrium dose constant for weakly-penetrating radiations (α and/or electrons), Δ_{wp} : 1.049×10^{-13} [Gy $\cdot$ kg/Bq $\cdot$ s]
Equilibrium dose constant for alphas, Δ_{α} : 0.000e+00 [Gy $\cdot$ kg/Bq $\cdot$ s]

Equilibrium dose constant for betas/electrons, $\Delta_{\beta-\beta+,e-}$: 1.049e-13 [Gy·kg/Bq·s]

Equilibrium dose constant for photons, Δ_p : 1.133e-13 [Gy·kg/Bq·s]

SUMMARY SPECTRA (PLOT)

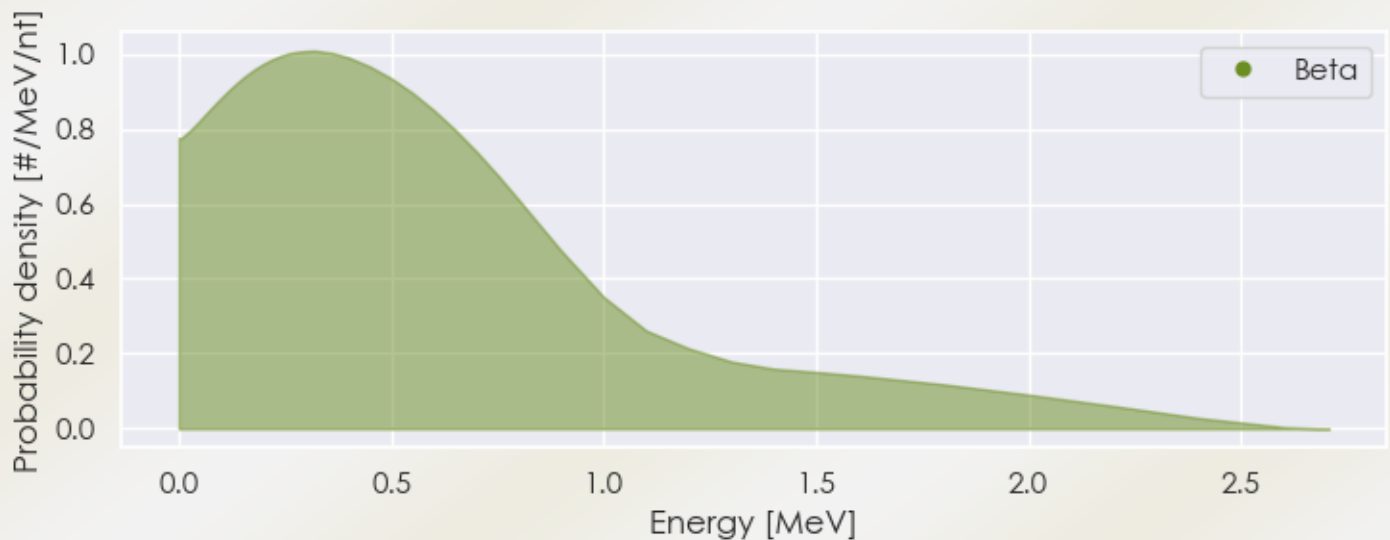
Spectra source: **ICRP Publication 107: Nuclear Decay Data for Dosimetric Calculations. Ann. ICRP 2008, 38 (3).**



Download tabulated summary spectra file here: [www.mirdsoft.org/products/MIRDspecs/Sr-91 Summary Spectrum.csv](http://www.mirdsoft.org/products/MIRDspecs/Sr-91%20Summary%20Spectrum.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/Sr-91 Beta Spectrum.csv](http://www.mirdsoft.org/products/MIRDspecs/Sr-91%20Beta%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/Sr-91 Summary Spectrum.csv](http://www.mirdsoft.org/products/MIRDspecs/Sr-91%20Summary%20Spectrum.csv)

Energy [MeV]	Yield [# / nt] if > 0.01	Radiation type
5.29808e-06	1.381e-02	X-ray
2.74700e-01	1.035e-02	Gamma
6.20100e-01	1.775e-02	Gamma
6.52300e-01	2.982e-02	Gamma
6.52900e-01	8.040e-02	Gamma
7.49800e-01	2.368e-01	Gamma
9.25800e-01	3.852e-02	Gamma
1.02430e+00	3.350e-01	Gamma
1.57089e-01	1.497e-02	Beta
2.09726e-01	2.104e-02	Beta
4.08620e-01	3.520e-01	Beta
4.23203e-01	1.851e-02	Beta
5.28039e-01	2.539e-01	Beta
8.23312e-01	3.439e-02	Beta
1.13181e+00	2.893e-01	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