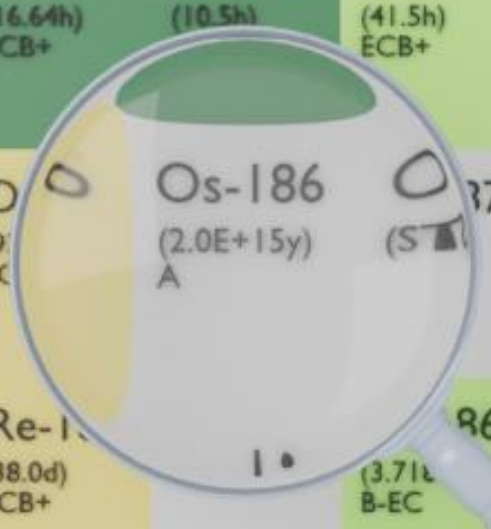




|                           |                           |                           |                            |                             |                               |                             |                            |                         |
|---------------------------|---------------------------|---------------------------|----------------------------|-----------------------------|-------------------------------|-----------------------------|----------------------------|-------------------------|
| Ir-185<br>(94.2d)<br>ECB+ | Ir-186<br>(3.09h)<br>ECB+ | Ir-187<br>(14.4h)<br>ECB+ | Ir-188<br>(16.64h)<br>ECB+ | Ir-189<br>(10.5h)<br>ECB+   | Ir-190<br>(41.5h)<br>ECB+     | Ir-191<br>(13.2d)<br>EC     | Ir-192<br>(11.78d)<br>EC   | Ir-193<br>(1.7h)<br>EC  |
| Os-182<br>(21.10h)<br>EC  | Os-183<br>(13.0h)<br>ECB+ | Os-184<br>(STABLE)        | Os-185<br>(97.3d)<br>EC    | Os-186<br>(2.0E+15y)<br>A   | Os-187<br>(STABLE)            | Os-188<br>(STABLE)          | Os-189<br>(STABLE)         | Os-190<br>(STABLE)      |
| Re-181<br>(19.9h)<br>CB+  | Re-182<br>(64.0h)<br>EC   | Re-183<br>(70.0d)<br>EC   | Re-184<br>(38.0d)<br>ECB+  | Re-185<br>(1.92E+11y)<br>EC | Re-186<br>(3.71E+10y)<br>B-EC | Re-187<br>(4.12E+10y)<br>B- | Re-188<br>(17.0040h)<br>B- | Re-189<br>(24.3h)<br>B- |

# OSMIUM-186

## SUMMARY DATA

### GENERAL

#### CLASSIFICATION

Isotope: Os-186  
Atomic number (Z): 76  
Mass number (A): 186  
Neutron number (N): 110

#### RADIOACTIVE DECAY

Decay modes:  $\alpha$   
Half-life: 2000000000000000.0 [y]  
Decay constant: 1.0982e-23 [1/s]  
Daughters: W-182 (100.0%)  
Radioactive daughters: None

#### DOSIMETRIC CONSTANTS

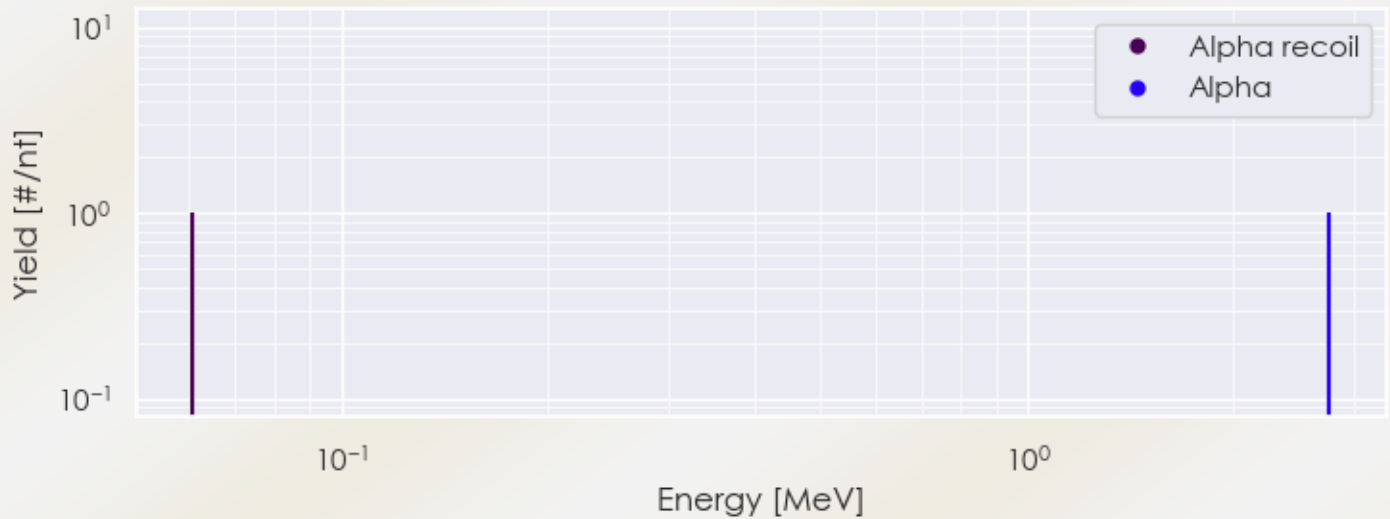
Mean alpha energy: 2.8219 [MeV]  
Mean electron energy: 0.0 [MeV]  
Mean photon energy: 0.0 [MeV]  
Air kerma rate constant,  $\Gamma_{10}$ : 0.000e+00 [Gy·m<sup>2</sup>/Bq·s]  
Air kerma coefficient,  $K_{air}$ : 0.000e+00 [Gy·m<sup>2</sup>/Bq·s]  
Equilibrium dose constant for weakly-penetrating radiations ( $\alpha$  and/or electrons),  $\Delta_{wp}$ : 4.521e-13 [Gy·kg/Bq·s]  
Equilibrium dose constant for alphas,  $\Delta_{\alpha}$ : 4.521e-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,  $\Delta_p$ : 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/Os-186 Summary Spectrum.csv](http://www.mirdsoft.org/products/MIRDspecs/Os-186%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/Os-186 Summary Spectrum.csv](http://www.mirdsoft.org/products/MIRDspecs/Os-186%20Summary%20Spectrum.csv)

| Energy [MeV] | Yield [# / nt] if > 0.01 | Radiation type |
|--------------|--------------------------|----------------|
| 2.76127e+00  | 1.000e+00                | Alpha          |
| 6.07268e-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](https://sites.snmmi.org/SNMML-MAIN/iCore/Store/StoreLayouts/Item_Detail.aspx?iProductCode=0-932004-80-6)