Answer on Question #55005 – Chemistry – Other

Question:

Calculate the number of disintegrations per second that occur in 100 g of radium given that the decay constant is 1.36×10^{-11} radium?

$$dN = -N_0 \times t \times \lambda$$

dN – number of disintegrations per period of time N_0 – total number of particles in the sample t – period of time λ - the decay constant

 $N_0 = \frac{100 \times 6.022 \times 10^{23}}{226}$ $dN = 2.66 \times 10^{23} \times 1 \times 1.36 \times 10^{-11}$ $dN = 3.617 \times 10^{12}$

Answer: 3.617 × 10¹² Bq

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