

78. Using Eq. 43-15 with Eq. 43-17, we find the initial activity:

$$R_0 = Re^{t \ln 2 / T_{1/2}} = (7.4 \times 10^8 \text{ Bq}) e^{24 \ln 2 / 83.61} = 9.0 \times 10^8 \text{ Bq} .$$