22 Activity Data

1 Curie (Ci) = 3.7 x 10^{10} disintegration/s

= 3.7 x 10^{10} Becquerel

The conversion of DAC from μCi/ml to DPM/m³

μCi/ml x 2.22 x 10^{12} = DPM/m³

Decay - Rule of Thumb:

- Activity is reduced to less than 1% after 7 half lives
- Activity is reduced to less than 0.1% after 10 half lives.

Decay - Calculation (simplified)

Multiply original activity by 1/2 for each half life that has passed, i.e.,

A_t = original activity, say 8,000 DPM
A_2 = present activity, say 500 DPM
n = number of half lives, is 4:

8,000 DPM x 1/2 x 1/2 x 1/2 x 1/2 = 500 dpm.

This can be expressed as a formula:

A_2 = A_t (1/2)^n