

### **Ch 31/32 HW Quiz #1A**

Some radioactive substances, when ingested in small doses, can be lethal over a period of days or weeks, making the cause of death difficult to determine. Suppose a victim is given a dose of 8.50 micrograms ( $8.50 \times 10^{-9}$  kg) of Polonium-210, which has a half-life of 138.4 days and a mass of 210 amu. (Google "Alexander Litvinenko" sometime for a chilling story).

What is the activity of 8.50 micrograms of Po-210, in Curies?

How many years would it take for the activity to fall to a less-than-lethal level of 210 microCuries?