

## Radioactive Material inventory

Each Principal Investigator that uses licensed radioactive material is required to keep an inventory of radioactive materials in their possession. Inventory reports are due at least quarterly. These reports, or the information required in order to prepare these reports, should be received by the Radiation Safety Office within 10 working days following the end of the period covered. Serious delinquencies may result in punitive action by the Radiation Control and Policy Committee. The Radiation Safety Office also keeps an inventory log and may request an inventory verification at any time.

The Radiation Safety Office provides radioactive material inventory forms. The inventory forms are for reporting the amounts of each radionuclide received, transferred and disposed of during the reporting period, plus the amount of each radionuclide "on hand" at the end of the reporting period. Alternate methods of reporting equivalent information may also be used.

The decay formula is as follows:  $A = A_0 \times e^{(-0.693t/T_{1/2})}$

Where:

A = Activity now

A<sub>0</sub> = Activity at some previous time

e = Base of natural logarithm

t = Elapsed time

T<sub>1/2</sub> = Half-life of the radionuclide (must be in same time units as t)