Radioactive Materials in School Laboratories

Radioactive materials are brought into the classroom to spark the interest of future nuclear engineers, health physicists, geologists, doctors, and emergency responders. Chemistry, physics and earth science labs are just a few examples of where radioactive sources may be found in schools.

When radioactive materials are used in education, the schools are responsible for protecting the health and wellbeing of their students. In grade schools the materials that are brought in are usually naturally-occurring and in such small quantity that they are not regulated. The colleges and universities that handle high quantities of regulated materials are licensed by the Nuclear Regulatory Commission (NRC) or an NRC Agreement State, which is a state that has been granted authority by NRC to regulate the radioactive material in their state. If handled properly, the educational benefits of learning with radioactive material outweigh any risk.

In grade schools, the problems with radioactive sources come when school staff and administration are unaware that the sources are in their schools.
There are two main issues:

- Teacher Turnover – As teachers leave their schools, they may leave radioactive materials behind in storage cabinets. Many times these containers are not labeled correctly and sometime are not sealed.
- Unknown Sources – A great deal of radiation comes from the ground and is natural in the soil and rocks. Rock collections may be radioactive without anyone's knowledge. When they are displayed, passersby may be exposed to potentially harmful amounts of radiation.

Who is protecting you

The States

Many states have signed formal agreements with NRC, delegating to the states regulatory authority over the licensing of colleges and universities to use radioactive materials for research. States with this agreement with NRC are called Agreement States.

Several states have started programs to work with grade schools to locate and remove unwanted radioactive material. These programs are normally located in the state's emergency management agency or radiation control program.

U.S. Nuclear Regulatory Commission (NRC)

Some states have not signed formal agreements with NRC. Within these states, NRC retains regulatory authority over the licensing of colleges and universities to use radioactive materials for research.

What you can do to protect yourself

If you are going to use radioactive materials in your schools, always put the safety of your students first. Cleanliness is of utmost importance when having students handle radioactive material.

To locate and dispose of radioactive materials in schools:

- **Contact your state radiation control program:** Your state radiation control program will be able to tell you if your state has a program in place to help you locate and dispose of unwanted radioactive materials in your school. If your state does not have a disposal program, your state radiation control program can provide guidance on what to do and where to get help.
- **Survey the science department staff:** Ask if they have any knowledge of radioactive materials used in the school or of unmark containers in storage areas.
- **Review the equipment inventory for indicators which suggest that radioactive materials may be present at the schoo**l: The presences of radiation detection equipment, like Geiger counters, is an indication that radioactive material may still be present in the school.
- **Review your chemical inventory for common radioactive materials:** Look for containers properly labeled containers identifying radioactive material.
- **Conduct a screening survey of the science department to locate unidentified radioactive materials:** Use a radiological screening device to attempt to identify and locate radioactive materials present in the school. Expert assistance in conducting this type of review may be obtained from a local hospital, a local hazardous materials response team, utilities, and state public health agencies.

Resources

You can explore this radiation source further through the resources at the following URL:
http://www.epa.gov/radtown/lab_materials.htm#resources

We provide these resources on-line rather than here so we can keep the links up-to-date.