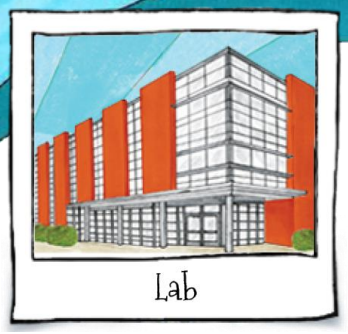

RadTown USA

Radioactive Material Used In Research

Some laboratories use radioactive material to assist their research.

- Radioactive materials are used in research settings to help researchers create and test new medicines, technologies and procedures for plants, animals and people.
- Research laboratories must follow strict rules to order, store, use and dispose of radioactive material.

About Radioactive Material Used In Research

Some research facilities use radioactive materials in the development of new medicines or products and in scientific studies. Radioactive materials can be used in many kinds of laboratories and research facilities. Some examples of how radioactive materials can be used in research include:

Medical researchers use radioactive materials to develop and test the effectiveness of new medicines and treatments. For example, a specialized detector that uses radioactive material called a tracer is used in some medical laboratories to track how material travels through a person or animal. There is a special field in medicine called radiopharmaceuticals that focuses on the use of radioactive materials in medicine to help treat or cure diseases. The creation and testing of new radiopharmaceuticals requires the use of radioactive materials.

Agricultural researchers use radioactive materials to test the effectiveness of new insect control techniques or materials. The same type of tracer that is used in medical research can be used in agriculture to study how certain materials move through plants. These tracers help researchers develop products that can make crops heartier and more disease resistant.

When using radioactive materials in laboratories, researchers must consider safety and waste disposal. Strict requirements must be met before a research facility can order, store or use radioactive materials. Such facilities are required to keep detailed records on radioactive materials in their possession so that in the case of an emergency, responders would be well informed. If radioactive waste is created as a result of the research, it must be disposed of according to state and federal requirements.

Rules and Guidance

U.S. ENVIRONMENTAL PROTECTION AGENCY (EPA)

EPA sets limits on how much radioactive material may be released into the environment from facilities that use or produce radionuclides under the Clean Air Act National Emissions Standards for Hazardous Air Pollutants (NESHAPs). Depending on the materials used in the research facility, EPA's regulations for mixed waste (waste that contains both radioactive and chemically hazardous materials) under the Mixed Waste Rule may apply. Often research laboratories need to dispose of low-level mixed waste, which is regulated under EPA's Resource Conservation and Recovery Act (RCRA) authority and the Atomic Energy Act. EPA also develops recommendations for federal and state agencies on protecting the public from ionizing radiation.

U.S. NUCLEAR REGULATORY COMMISSION (NRC)

Under the Atomic Energy Act, NRC controls the civilian use of radioactive material in medicine, industry and research through a combination of rules, licenses, inspections and enforcement activities.

THE STATES

Many states have signed formal agreements with NRC, giving the states regulatory responsibility over small quantities of special nuclear material and its source and byproducts. These states are known as Agreement States.

U.S. DEPARTMENT OF LABOR (DOL), OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA)

OSHA sets standards to protect radiation workers from unnecessary exposure to ionizing radiation.

What you can do

It is unlikely that you will come into contact with radioactive materials in a research facility. If you do spend time in an area where radioactive materials are used for research, be sure to follow all safety guidelines.

Where to learn more

You can learn more about radioactive materail used in research by visiting the resources available on the following webpage: http://www3.epa.gov/radtown/research.html#learn-more.