

RADIOACTIVE WASTE MANAGEMENT

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Radioactive wastes are hazardous wastes that contain radioactive materials. On campus, radioactive wastes are generally a byproduct of research and teaching. Radioactive waste is dangerous and must be properly managed to protect human health and the environment. The management of these wastes are handled by EHS. In Alabama, the NRC and the Department of Public Health regulate radioactive materials and waste.

Sublicensees are not authorized to manage waste but rather to collect and prepare it for pickup by EHS. Wastes include source material and lab wastes such as paper, containers, pipets, towels, etc. Wastes may be solid, liquid or scintillation material. The initial step is to print out the Radioactive Waste Label, which is on the EHS web site. Once complete a pickup request should be made through the EHS web site. Wastes are collected by EHS, processed then stored until picked up by a radioactive waste disposal vendor.

Most wastes generated on campus are low level isotopes used in research and teaching. The isotopes most utilized are C14, H3 and P32. Small, sealed sources are generally used in teaching applications. Several instruments on campus utilize an internal radiation source. Liquid scintillation counters are examples of these. Sources are removed from instruments prior to disposal as well as tubes from x-ray machines.

Radioactive material may be stored for some time prior to disposal. Different isotopes have difference decay half-lives. For example, the half-life of P32 is 14.3 days while C14 is 5770 years. Once a material goes through 10 half-lives, it is considered as having no activity. Radioactive waste regulations account for this and therefore generators are not limited to a 90-day storage cycle like with chemical waste.

For more information regarding the disposal of radioactive waste, contact the Radiation Safety Officer at EHS at 348-5905.

