

MIXED WASTE

"Mixed waste" is a term used to describe combinations of hazardous chemicals, infectious materials, and radioisotopes. Mixed chemical/radioactive wastes present the most difficulty. These wastes are regulated by the Environmental Protection Agency (EPA) and the Nuclear Regulatory Commission (NRC) and require special precautions and handling. The EPA Toxicity Characteristic (TC) rule sets concentration limits for toxic substances in waste materials; wastes exceeding these concentrations are regulated. As one example, a waste containing as little as 6 mg/L of chloroform is characterized as toxic.

Few facilities are licensed to treat and dispose of mixed chemical/radioactive wastes. As a result, mixed waste disposal is extremely expensive; squandering scarce resources that could otherwise be used for research related activities. For example, mixed waste disposal is twenty times more expensive than disposal of comparable hazardous waste.

Our research community can help by avoiding the generation of mixed waste by observing separation and identification practices, and by implementing minimization strategies that enhance safety, conserve resources, prevent pollution, and reduce disposal costs. Important minimization strategies that may be incorporated into the planning and design of laboratory procedures include using short-lived radionuclides whenever possible, substituting nonregulated, less hazardous chemicals for regulated chemicals, volume reduction, and avoidance of over-ordering(Safetygram ISM-178).

Segregation and containment are additional minimization strategies that are vital when a laboratory procedure includes the generation of waste. Strategies may include segregating: different radioactive wastes from each other (e.g., organic - aqueous), radioactive waste from chemical waste, radioactive waste from infectious agents and other medical pathological waste, short-lived nuclides from long-lived nuclides (as explained in Safetygram ISM-152). Mixed waste containing radionuclides and medical pathological waste may be disinfected with an appropriate agent to reduce hazards and disposal costs. Proper identification and segregation of chemical wastes is described in the Health, Safety, and Environmental Compliance Program Manual.

We need your assistance to ensure regulatory compliance. Minimize all wastes and avoid generating mixed waste. Segregate, contain, and correctly identify those wastes that must be generated. These actions on your part will aid NCI-Frederick in providing safe, reliable, cost effective waste management.

If you have questions about mixed waste, please call x1451 for additional information.