8.7 Mixed Wastes

Mixed wastes are defined as wastes that contain radioactive materials and a hazardous waste. These types of wastes require special handling. Researchers are encouraged to minimize the generation of mixed wastes because of the high disposal costs.

For example, radioactive wastes that contain any of the following must be handled as a mixed waste (this list is not exhaustive, be alert for additional hazardous components that may be in your waste):

Solvents (e.g., methanol, methylene chloride, acetone)	Carbon Tetrachloride
Flammable chemicals	Chlordane
Nitrates	Chlorobenzene
Sulfides	Chloroform
Cyanides	O-Cresol
Aqueous solutions with pH $\leq$ 2 or $\geq$ 12.5*	M-Cresol
Arsenic	P-Cresol
Barium	1,4-Dichlorobenzene
Cadmium	1,1,-Dichloroethylene
Chromium	2,4-Dinitrotoluene
Lead	Heptachlor
Mercury	Hexachlorobenzene
Selenium	Hexachlorobutadiene
Silver	Hexachloroethane
Endrin	Methyl Ethyl Ketone
Lindane	Nitrobenzene
Methoxychlor	PCBs
Toxaphene	Pentachlorophenol
2,4-D	Pyridine
2,4,5 TP (Silvex)	Tetrachloroethylene
Benzene	Trichloroethylene
*If pH is the only item on this list that makes the item a mixed waste, it can be neutralized and handled as Rad Waste.	2,4,5-Trichlorophenol
	2,4,6-Trichlorophenol
	Vinyl Chloride

If the waste contains I-125, P-32, P-33, S-35, Fe-59, or other short half-life (<90 days) radioisotopes in addition to anything listed above, the waste should be retained by the generator until it is adequately decayed (typically 10 half-lives) so that it no longer qualifies as a regulated radioactive waste. The waste can then be classified as chemical waste and a chemical waste pick-up can be initiated at:

https://www.drs.illinois.edu/Page/RequestAWastePickup

Remember to ensure that shielding (as needed) and proper containment is in place in the laboratory during the time the waste is retained in the laboratory while decaying.