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REDWC Waste Stream Matrix Waste Treatment, Disposition and Container Selection Criteria

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Disclaimer

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REWDC Waste Stream Matrix

Waste Stream	Amount	Contaminants	Point of Generation	Type of Waste	Process	Initial Container Type	Waste Treatment	Disposition Options	Containment Type (type of drum)
Hot cell Wash down (rinsate)	2 m^3/6 month	TeO_2, I, & Potassium Permanganate	Hot Cell	Liquid	Accidental Spills inside Hot cells	Retention Tank	Decay Sample Release/ Evaporate	Onsite disposal as LLW of evaporator concentrate	Drum (Type 1)
Drying TeO_2 Crucibles	100g/2 weeks	TeO_2	Hot Cell	Solid	Dry Distillation Method	5-gallon pail		Dispose of as LLW	5-gallon pail
Sulfuric Acid	100 ml/ 2 Weeks	TeO_2 and I	Hot Cell	Liquid	Dry Distillation Method	Carboy	Condition in cell	Dispose of as LLW	Drum (Type 1)
Rinsate (glass ware Washing)	200 ml/2 weeks	TeO_2 and I	Hot Cell	Liquid	Dry Distillation Method	Retention Tank	Decay, sample, release	N/A	N/A
Contaminated Vacuum Water	5 m^3/ 2 weeks	I	Vacuum Pumps Compartments	Liquid	Tc-99M Production	Retention Tank	Decay Sample Release or Evaporate	Onsite disposal as LLW of evaporator concentrate	Drum (Type 1)
Resin Cation Exchange Columns	10 gr/ week	Mo & Tc	Lab	Solid	Tc-99M Production	5-gallon pail	Solid waste	Dispose of as LLW	Drum (Type 1)
Aluminum Columns (Aluminum Oxide)	10 gr/ week	Mo & Tc	Lab	Solid	Tc-99M Production	5-gallon pail	Solid waste	Dispose of as LLW	Drum (Type 1)
Irradiation Container (aluminum) - Tc-99	Tc-99 container/ week	Tc-99	Hot Cell	Solid	Removing Sample from Irradiated Tc-99	5-gallon pail	Solid waste	Dispose of as LLW	Drum (Type 1)
Irradiation Container (aluminum) - T-131 and Br	I-131 container/ week	I-131	Hot Cell	Solid	Removing Sample from Irradiated Tc-99	5-gallon pail	Solid waste	Dispose of as LLW	Drum (Type 1)
Wastewater from Glassware washing from Labs	3000 l/month	Low pH	Lab Sinks	Liquid	Glassware Rinsate	Retention Tank	Sample Release or Evaporate	Onsite disposal as LLW of evaporator concentrate	Drum (Type 1)
Oil/Water waste	5 Gal/3 months	Oil	Machine Shop	Liquid	Machine Cooling	---	Haz only waste	N/A	N/A
Reactor Pool Water Purification/Filtration	5 m^3/Hr	Activation	Reactor Pool	Liquid	Reactor Pool Filtration	N/A	Filter/ion exchange	Condition spent ion exchange media and dispose of as LLW	Drum (Type 1)
HEPA Filters	6 with housing	I, Am, Br, Cs	Ventilation System	Solid	HEPA Filters Replacements		Condition for disposal	Dispose as LLW	Drum (Type 1)
Waste Oil	5 gal/month	Oil	Machine Shop, Car Maintenance	Liquid	Oil Change	Carboy	Haz only waste	N/A	N/A
Spent Solvents	5 Gal/3 months	Acetone, MEK, etc	Machine Shop	Liquid	Cleaning	Carboy	Haz only waste	N/A	N/A
Fire Alarm Detectors	3 Drums	Am	All Facilities	Solid	Fire Alarm Detectors Replacement	Drum	Condition for disposal	Confirm final waste form meets LLW and then dispose	Drum
PPE	55 Gal/Month	Am, I, Br, Cs	Hot Cell and Analytical Labs	Solid	Experiments	Drum (Type 2)	Compact for disposal	Dispose of as LLW	Drum (Type 2)
Waste Water from Laundry	250 gal/week	Am, I, Br, Cs	Laundry Machine Room	Liquid	Laundry	Tank	Sample release or Evaporate	Onsite disposal as LLW of evaporator concentrate	Drum (Type 1)
Light Bulbs	2 Drum/Year	Hg	All Facilities	Solid	Light Bulbs Replacement	Drum (Type 2)	Sample release as haz only	N/A	N/A

REWDC Container Types

Type 1

Use: Long term storage of conditioned waste.

Steel: 55-gallon galvanized drum with a 90 mil HDPE liner.

Example of 55-gallon galvanized drum.

Type 2

Use: Solid waste; point of generation and short term storage.

Steel or poly: 2-gallon, 5-gallon, 30-gallon, 55-gallon drum used with 4 mil polyethylene liner.

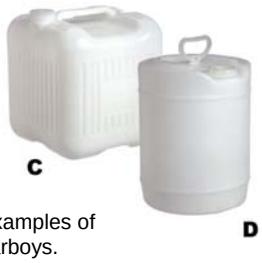
Example of 55-gallon metal drums.

Example of 30-gallon poly drum.

Examples of 7-gallon metal and 5-gallon poly pail.

Type 3

Use: Liquid waste.
Steel or poly: 2-gallon, 5-gallon, 30-gallon, 55-gallon drum – closed head.



Examples of carboys.

Example of 5-gallon closed head metal drums.

Example of 55-gallon closed head metal drums.