

# RADIOACTIVE WASTE HANDLING, STORAGE AND DISPOSAL

## MODULE 7

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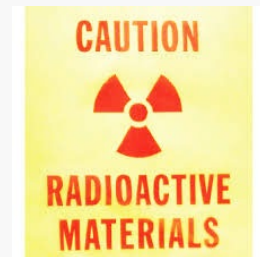
OKLAHOMA STATE UNIVERSITY  
CENTER FOR HEALTH SCIENCES

# Storage of Radioactive Waste

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Store waste only in approved bags and containers.

- Bags – Yellow with Radiation label
- Boxes – Line with yellow bag
- Bottles – Attach Radiation label



DO NOT use anything that can be mistaken for an ordinary trash container

**When full: label with user's name and dept., isotope, activity, fill date and seal with a liquid tight tie-off.**

# WASTE CONTAINERS

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**Not This,  
But**



# WASTE CONTAINERS

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**THIS!**



# Storage of Radioactive Waste Cont.

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Do not mix aqueous and organic waste.

Do not mix **liquid** and dry waste, i.e., do not dispose of such items as pipette tips in liquid waste; empty scintillation vials are dry waste.

Segregate dry waste by half-lives equal to or less than 120 days from half-lives greater than 120 days (eg: P-32 vs H-3).

# Storage of Radioactive Waste Cont.

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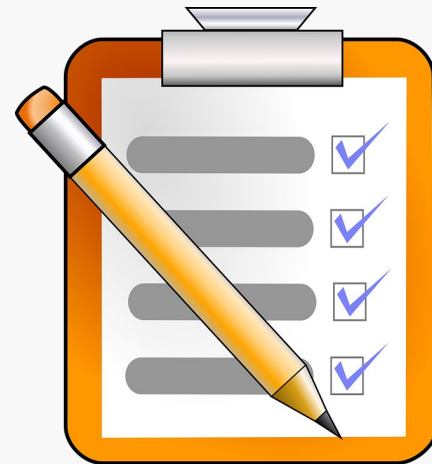
Do not mix scintillation vials that contain different radionuclides.

Do not use coke bottles , milk bottles etc. for liquid waste.

# Legal Methods of Disposing of Radioactive Waste

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- ❖ Decay in Storage (DIS)
- ❖ Dump to Sanitary Sewer
- ❖ Only RSO may Ship to Disposal Site
- ❖ Dispose as if not radioactive



# Legal Methods of Disposing of Radioactive Waste

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## **Decay in Storage (DIS)**

- Store waste in the laboratory if the half-life is no more than 120 days.
- “DIS” Isotopes must be held for decay for at least 10 half-lives.
- Survey monitoring of material must read close to background.
- All radioactive labeling must be defaced.
- Document in a log



# Legal Methods of Disposing of Radioactive Waste

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## **Dump to Sanitary Sewer**

- Must be water soluble or readily dispersible biological material in water.
- Concentration per month is limited by the regulations, check with the Radiation Safety Officer.
- May obtain permission from the Radiation Safety Office prior to dumping - Only way to know if other people are dumping.

# Legal Methods of Disposing of Radioactive Waste

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## **Dump to the Sanitary Sewer (Cont.)**

- Annual Limit per Facility
  - H-3: 5 curies
  - C-14: 1 curie
  - All other radionuclides combined: 1 curie

# Legal of Disposing of Radioactive Waste

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Only the RSO may Ship to Disposal Site.

Contact RSO when you have a full container of dry or liquid waste.

Disposal Site waste should be stored securely and safely until scheduled pick-up.

# Legal Methods of Disposing of Radioactive Waste

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## **Dispose as if not Radioactive**

- Scintillation medium containing no more than 0.05 microcuries per ml of H-3, or C-14 may be discarded as if it was not radioactive. If chemical solvent is disposed of properly the radioactivity will not pose a problem.
- A record shall be kept of each such disposal for the life of the license; it may be sent to the RSO.