

## **Radioactive Waste Management Procedures and Guidelines**

See Radiation Manual 1997 for further details:

<http://web.stanford.edu/dept/EHS/prod/researchlab/radlaser/manual/radsafetymanual1.html>

### **PART I. Radioactive Waste**

#### **A. Dry Waste**

1. Labs must request a box from the Radioactive Waste program, and use only this box for accumulating their waste.
2. Place only radioactive material contaminated with dry, non-decomposable waste such as gloves, paper, and glassware.
3. Do not put any liquids, capped vials, lead, animals, bedding, or scat into container.
4. Use proper shielding for designated isotopes.  
Ex. P32 requires low atomic number Z shielding. (approx. 1 cm. thick plastic)  
\* Refer to pg. I.27 in the Radiation Safety Manual
5. When the container is 2/3 full, fax/mail a copy of the log sheet to 723-3759. (Place log sheet back on box so it can be easily identified)

#### **B. Sharps Container**

1. Only deposit sharps (pipettes, syringes, needles, broken glass, and razor blades) that are contaminated with radioactive material.
  - Non-radioactive sharps must be managed as Biowaste. Hospital Housekeeping picks up all biowaste at the Medical Center including non-radioactive sharps (At non-medical center locations, place sharps containers in a red bag for contractor P/U)
2. Once the sharps container is full and capped, it can be deposited in a dry waste box with waste of the same half-life category (see manual). Make sure to enter contents on dry waste log.
3. For separate removal of sharps containers, fax the log sheet to Rad. Waste program.

#### **C. Sewer Disposal of Non-Chemically Contaminated Radioactive Wastes**

(Material that is readily soluble in water and the chemical or biological content is not prohibited from sewer disposal)

1. Each lab may sewer dispose up to LAS quantities daily of aqueous and non-hazardous buffer solutions containing radioisotopes, **if** the LAS quantity of the isotope is greater than 1 microcurie. (See Manual)

- If your radioactive waste contains any non-sewerable chemical contaminants such as solvents, notify EH&S at 725-7529.
  - LAS quantities may be found at:  
<http://web.stanford.edu/dept/EHS/prod/researchlab/radlaser/manual/appendices/CFRpart10.htm>
2. When sewer-disposing radioactive waste make sure to log each disposal on the *Daily Use Log* in the Radioisotope Journal.
  3. Use one designated sink for disposal of radioactive material in each laboratory.

#### D. Cement Kits

1. Small volumes of non-sewerable liquid waste (See above for guidance on sewerage liquid waste)
2. Instructions for use are provided with the kit.
3. For removal of filled cement kits, fax the log sheet to Rad. Waste program.

#### D. Scintillation Vials

1. Use only 5-gallon bucket provided by Rad. Waste program.
2. Make sure that the hazardous waste tag on the side of the bucket is filled out upon first use of bucket.
3. Each isotope must have its own container. (C-14, H-3 can be mixed)
4. Once the bucket is ready for pick up it must be closed. (The bag must be tied and the lid attached)
5. Send completed log sheet to Rad. Waste program.

### PART II. Mixed Waste/ Aqueous Waste

- A. **Mixed Waste**-any hazardous chemical that is mixed with a radioactive material. (Example: Methanol and C14)
  1. Prior approval is required from the Radiation Safety Committee before generating chemically contaminated “Mixed” radioactive waste. You must contact Health Physics to gain this approval.
  2. If the mixed waste contains short-lived isotopes such as P32, please hold for decay (10 half-lives). This is the only isotope that can be held for decay. Once decayed it can be picked up by the chemical waste crew.  
 \* Please refer to PG. III.28 of the Radiation Safety Manual.
  3. In lab treatment of the chemical hazards in mixed waste may be approved. Please contact Craig Barney at 725-7529.
    - **Make every effort to eliminate the generation of mixed waste. It is very expensive to discard.**
- B. **Aqueous Waste** - If your radioactive liquids are mixed with non-hazardous chemicals you can refer to LAS quantities,  
<http://web.stanford.edu/dept/EHS/prod/researchlab/radlaser/manual/part3/general.htm> to determine if your mixed waste can be sewerage.