



# Radiation Control Office Reminders for Storing and Disposing of Radioactive Wastes

# Storage of Dry Pails



- Do not store pails with the liner exposed (this causes tears in the liner and may spread contamination to storage cabinets or anything else the container comes into contact with)

# Sharps



- Any sharps that may potentially puncture a hole in the liner must be packaged in a sharps container (cardboard boxes and coffee cans are sufficient)

# Dry Waste Disposal

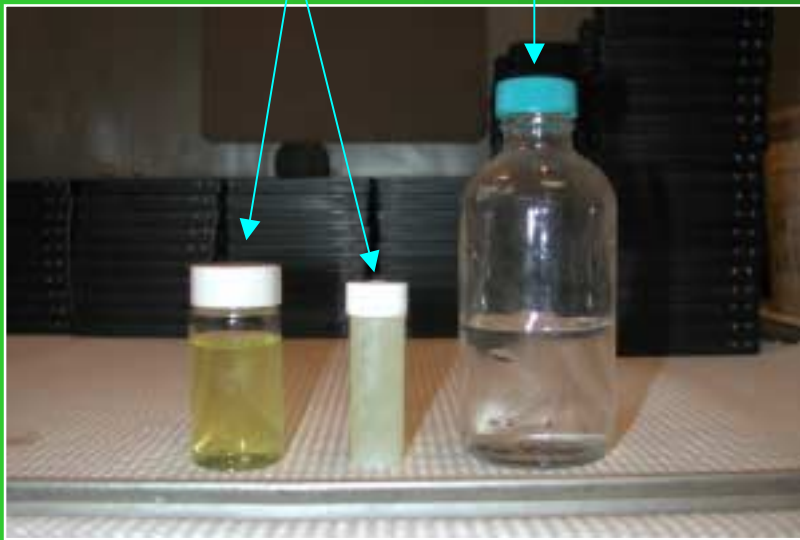


- Make sure to seal the liner with adhesive tape (as shown) before sealing the pail for disposal.
- Dry waste does not have freestanding liquid within the liner. Apply absorbent to soak up residual liquid.

# Liquid Waste Disposal

VIALS

BULK



- There are 2 types of liquid waste
  - Vials (< 40 ml, Centrifuge tubes, test tubes with lids, scintillation vials, Source vials)
  - Bulk (> 40 ml)

Disposal companies will not pick up bulk liquids mixed with vials

# Bulk Liquid Disposal



- When packaging bulk liquids make sure to use newspaper or styrofoam to secure the bottles inside the container.

# Carboy Storage



- Never remove from secondary container (like shown)
- Remember to leave head space in container. We recommend only filling 4 of the 5 gallons

# Carboy Disposal



- Remember to remove any funnels from the container and screw the cap on tightly before closing the secondary container
- The Carboy should always be stored with the cap secured tightly



# Waste Log

Inventory # and activity disposed must be tracked on the RF13C form when disposing of radioactive material

The RCO recommends keeping the RF13F sheet with each bucket

## RF-13F RADIOACTIVE MATERIALS REQUEST FOR DISPOSAL

RCO USE ONLY  
Operating Log #:

(Please type or print clearly. See Back for Additional Information)

Record information for waste containers on this form. RF-13C forms should be used for completing this form. All instructions for completing this form are located in RI-13. Instructions are also located on the back of this form.

Principal User: **RCO**

Department: **Environmental Health Services**

Date: **10/28/99**

Person Preparing Form: **James C. Graham**

Phone: **491-3736**

Laboratory Code:

Total No. of Pails: **1**

Sheet **1** of

Location of Waste: **GSB 133 Under Hood**

Phone: **491-4835**

Special Handling Instructions and Additional Information (if any) is Attached?  Yes  N/A

Pail Type: 5 Gallon Steel  5 Gallon Plastic  30 Gallon Steel  55 Gallon Steel  5 Gallon Carboy(s)

Pail No.	Isotope	INV#	% of Inv #	Assay Date	Assay Activity Disposed mCi    μCi	INV # Totally Disposed	Total Volume of Waste (gal)
<b>1520</b>	<b><sup>14</sup>C</b>	<b>2120</b>				<input type="checkbox"/>	
<b>Waste Class</b>							Net Weight of Waste (lbs)
Short Half Life <input type="checkbox"/>		Long Half Life <input checked="" type="checkbox"/>				<input type="checkbox"/>	
Dry-Solid <input checked="" type="checkbox"/>		Liquid <input type="checkbox"/>				<input type="checkbox"/>	pH
Non-Haz <input checked="" type="checkbox"/>		Mixed <input type="checkbox"/>				<input type="checkbox"/>	

## RF-13C RADIOISOTOPE DISPOSITION REQUEST

(CONTINUED)

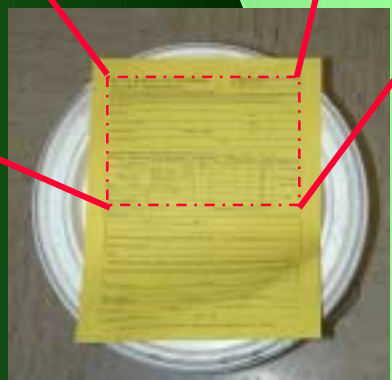
(Please type or print clearly)

Inv. # **2120** Principal User: **RCO** Page **2**

Dept.: **Environmental Health Services** Location: **133 General Services Building**

Waste Tag No., Location, or Name of Recipient	Circle One Category	Amount	Circle Units	Container Description	μCi/ml Sink Disposal	Initials	Date
<b>1520</b>	<b>S T A D F N R</b>	<b>60</b>	<b>% μCi</b> mCi	<b>LDN 5P</b>		<b>JCG</b>	<b>10/28/99</b>
		<b>5</b>	<b>% μCi</b> mCi	<b>LDN 5P</b>		<b>JCG</b>	<b>11/02/99</b>
		<b>10</b>	<b>% μCi</b> mCi	<b>LDN 5P</b>		<b>JCG</b>	<b>11/10/99</b>
			% μCi mCi				
			% μCi mCi				
			% μCi mCi				
			% μCi mCi				
			% μCi mCi				
			% μCi mCi				
			% μCi mCi				
			% μCi mCi				

- Categories**
- S = To Sewer
  - T = Transfer to another CSU P.U.
  - A = Animal Waste
  - D = Dry Waste or Sharps
  - F = Flammable or other haz. Liq.
  - N = NHNT liquid (bulk or vials)
  - R = Remaining Inventory (storage)



# RF-13F RADIOISOTOPE MATERIALS

## REQUEST FOR DISPOSAL

(Please type or print clearly, See Back for Additional Information)

Record information for waste containers on this form. RF-13C forms should be used for completing this form. All instructions for completing this form are located in RI-13. Instructions are also located on the back of this form.

Principal User: **RCO**

Department: **Environmental Health Services** Date: **10/28/99**

Person Preparing Form: **James C. Graham** Phone: **491-3736**

Laboratory Code: **For Laboratory Use** Total No. of Pails: **1** Sheet **1** of **1**

Location of Waste: **GSB 133 Under Hood** Phone: **491-4835**

Special Handling Instructions and Additional Information (if any) is Attached?  Yes  N/A  
 Pail Type: **5 Gallon Steel**  **5 Gallon Plastic**  **30 Gallon Steel**  **55 Gallon Steel**  **5 Gallon Carboy(s)**

Pail No.	Isotope	INV#	% of Inv #	Assay Date	Assay Activity Disposed mCi μCi	INV # Totally Disposed	Total Volume of Waste (gal)
<b>1520</b>	<b><sup>14</sup>C</b>	<b>2120</b>	<b>30</b>	<b>10/20/99</b>	<b>0.075</b>	<input type="checkbox"/>	<b>2</b>
<b>Waste Class</b>	<b><sup>14</sup>C</b>	<b>1819</b>	<b>35</b>	<b>10/10/99</b>	<b>0.0875</b>	<input checked="" type="checkbox"/>	<b>Net Weight of Waste (lbs)</b>
Short Half Life <input type="checkbox"/> Long Half Life <input checked="" type="checkbox"/>						<input type="checkbox"/>	<b>4</b>
Dry-Solid <input checked="" type="checkbox"/> Liquid <input type="checkbox"/>						<input type="checkbox"/>	<b>pH</b>
Non-Haz <input checked="" type="checkbox"/> Mixed <input type="checkbox"/>						<input type="checkbox"/>	<b>N/A</b>

Highest Exposure Rate at Surface (mR h<sup>-1</sup>): **0.30** Highest Wipe Activity (net dpm cm<sup>-2</sup>): **-0.002**

Describe Waste: **Paper, plastic, absorbent paper.**

Are Sharps Secured in a Sturdy Container within the Pail? Yes  No  Do you need a Replacement Pail?  Yes  No

BioHazards Disinfected By: **N/A**

Method: **N/A**

If this is a mixed waste, complete the hazardous waste "REQUEST FOR DISPOSAL" section on the back of this form.

Generator's Certification: I hereby declare that the contents of this consignment are fully and accurately described above.  
 Printed/Typed Name: **Printed Name** Signature: **Signature of PU** Date: **10/28/99**

**EHS USE ONLY**  
 Approved/Rejected By: \_\_\_\_\_ Manifest No. \_\_\_\_\_ Storage Location: \_\_\_\_\_

Picked Up By: \_\_\_\_\_ Date: \_\_\_\_\_ Visual Inspection Codes: \_\_\_\_\_

QA Inspection Required? YES NO **PASS FAIL**

RCO USE ONLY  
 Operating Log #:

# Complete the RF-13F Form for Disposal

Example here given for Dry Solid

## RF-13C RADIOISOTOPE DISPOSITION REPORT (CONTINUED)

(Please type or print clearly)

Inv. # **2120** Principal User: **RCO**

Dept.: **Environmental Health Services** Location: \_\_\_\_\_

Waste Tag No., Location, or Name of Recipient	Circle One Category	Amount	Circle Units	Container Description	μCi Sink
<b>1520</b>	<b>S T A D F N R</b>	<b>60</b>	<b>% (μCi) mCi</b>	<b>LDN 5P</b>	
		<b>5</b>	<b>% (μCi) mCi</b>	<b>LDN 5P</b>	
		<b>10</b>	<b>% (μCi) mCi</b>	<b>LDN 5P</b>	
			<b>% μCi mCi</b>		
			<b>% μCi mCi</b>		
			<b>% μCi mCi</b>		
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			<b>% μCi mCi</b>		
			<b>% μCi mCi</b>		
			<b>% μCi mCi</b>		

**Categories**  
 S = To Sewer  
 T = Transfer to another CSU P.U.  
 A = Animal Waste  
 D = Dry Waste or Sharps  
 F = Flammable or other haz. Liq.  
 N = NHNT liquid (bulk or vials)  
 R = Remaining Inventory (storage)

- Transfer info from RF13C to RF-13F
- Complete all fields shown here
- The total activity for each isotope must be recorded
- The assay date and non-decayed activity should be reported
- Refer to the Module 3 slides for more Information.

# Back of RF-13F Disposal Form

Isotope	INW#	% of Inv #	Assay Date	Assay Activity Disposed mCi    μCi	WV# Totals Disposed
					<input type="checkbox"/>
					<input type="checkbox"/>
					<input type="checkbox"/>
					<input type="checkbox"/>
					<input type="checkbox"/>
					<input type="checkbox"/>
					<input type="checkbox"/>
					<input type="checkbox"/>

Continuation for isotope and activity entry

Individuals completing this section must be certified as a hazardous waste generator through CSU. The container must be labeled with the words "HAZARDOUS WASTE", the complete list of contents, the accumulation start and end date, volume or weight and department name. See the "Hazardous Chemical Waste System Manual".



## REQUEST FOR DISPOSAL

Identification/ Description of WASTE CHEMICALS	SOLID LIQUID GAS	pH	NUMBER, SIZE, & TYPE of CONTAINER EX. 3x1 L. Bottle	VOLUME or WEIGHT in CONTAINER (EX. 750 mL in each bottle)	TOTAL WIEGHT of EACH WASTE TYPE in POUNDS (lbs) INCLUDING CONTAINER	(RCO USE) DOT/ EPA
Methanol 40 mL. Chloroform 50 mL. NH4OH 10mL.	LIQUID	5	1x500 mL glass bottle	450 mL	2.3 lbs.	
Water 340 mL.. Butanol 10 mL. Cell extract 5 g						
Brilliant Blue 0.1 g						
Butanol 200 mL. Methanol 50 mL.	LIQUID	5	1x500 mL glass bottle	500 mL	2.5 lbs.	
Chloroform 50 mL Water 200 mL.						
Butanol 100 mL. Methanol 15 mL.	LIQUID	5	1x500 mL glass bottle	250 mL	1.5 lbs.	
Chloroform 15 mL. Water 100 mL.						

This is an example of bulk liquid entry for waste. This entry shows 3 different bottles in one waste container

All liquid waste must be reported in this section (hazardous or non-hazardous, bulk or vials)

Provide as much information as possible (remember that RCO personnel handle your waste).

Provide information in the format shown here.

# Proper Sealing and Tagging



- When closing a 30 or 55 gallon drum, remember to tighten the nut and bolt in the orientation shown
- Lastly, make sure to fill out every line of information on the yellow tag
- *The yellow tag must be on all waste containers to be picked up by the RCO*

The Radiation Control Office



picks up waste every  
Wednesday morning.

To ensure that your waste is  
picked up, please submit the  
RF-13F (Request for Disposal)  
form by Monday at 12:00 p.m.

Thank You

# Questions ???

See our Website – <http://www.ehs.colostate.edu/radiation>

And in particular, Module 3 slides for additional information

Please Feel Free to Contact: The Radiation Control Office



**133 General Services Bld.**

**CSU Main Campus**

**Fort Collins, CO. 80523-6021**

**Environmental Health Services: 491-6745**

**Radiation Safety Officer: 491 - 3736**

**Alt. Radiation Safety Officer: 491 - 3928**

**Radiation Control Technician: 491 - 4835**

**VTH Radiation Safety Specialist: 297 - 4439**

**Radiation Safety Specialist: 491 - 4831**