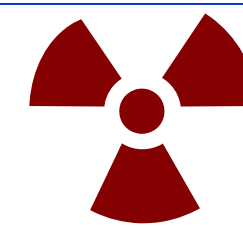


# Helpful Hints for Preparing Low-Level Radioactive Waste for Collection



## BASIC WASTE HANDLING

### Waste Generating



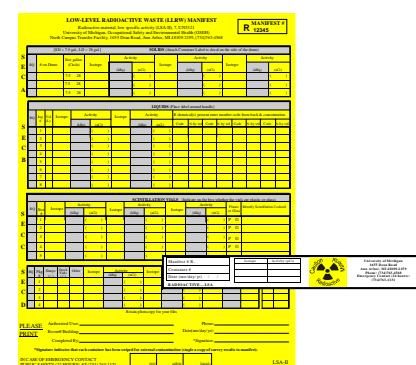
- Only use containers provided by OSEH HMM
- Segregate isotopes by half-life
- Keep containers closed unless adding waste

### Smears



- Smear the outside of each container
- If contamination is found clean and re-smear the container
- Attached the smear results to the manifest(s)

### Waste Labeling and Manifesting



- Attach a completed label to each container
- Complete a Low-Level Radioactive Waste Manifest
- Place waste manifest(s) with the shipment

### Requesting a Collection



- Prior to requesting a collection, paperwork must be complete and waste properly packaged
- Call 763-4568 to request a collection or containers

## CORRECT CONTAINER LABELING AND MANIFESTING

Label each container and fill out the applicable sections of the manifest.  
See below for examples of labels and manifests.  
Refer to the Radioactive Waste disposal manual for detailed information.

### Solid Waste



- Container number begins with LD or SD and is printed on the drum
- Do not put lead or liquids in solid waste drums
- Attach label where indicated on container

Manifest # R-12345	Isotope	Activity (uCi)		University of Michigan 1655 Dean Road Ann Arbor, MI 48109-2159 Phone: (734)763-4568 Emergency Contact (24 hours): (734)763-1131
Container # LD-5447	P-32	10		
Date (mo/day/yr) 07/31/09				
RADIOACTIVE - LSA				

LOW-LEVEL RADIOACTIVE WASTE (LLRW) MANIFEST											
Radioactive material, low specific activity (LSA-II), 7, UN3321 University of Michigan, Occupational Safety and Environmental Health (OSEH) North Campus Transfer Facility, 1655 Dean Road, Ann Arbor, MI 48109-2159, (734)763-4568											
[SD = 7.5 gal., LD = 28 gal.] SOLIDS (Attach Container Label to decal on the side of the drum)											
REQ	# on Drum	Size gallon (Circle)	Isotope	Activity		Isotope	Activity		Isotope	Activity	
				(kBq)	(uCi)		(kBq)	(uCi)		(kBq)	(uCi)
S	LD-5447	7.5	P-32	( )	( 10 )	( )	( )	( )	( )	( )	( )
E	SD-5644	28	H-3	( )	( 30 )	( )	( )	( )	( )	( )	( )
C				( )	( )	( )	( )	( )	( )	( )	( )
A				( )	( )	( )	( )	( )	( )	( )	( )

### Liquid Waste



- List all chemicals on the manifest (see back of manifest for additional information)
- Do not fill past line
- Attach label to handle of jug

Manifest # R-12345	Isotope	Activity (uCi)		University of Michigan 1655 Dean Road Ann Arbor, MI 48109-2159 Phone: (734)763-4568 Emergency Contact (24 hours): (734)763-1131
Container # Jug 1	P-32	20		
Date (mo/day/yr) 07/31/09				
RADIOACTIVE - LSA				

LIQUIDS (Place label around handle)														
REQ	Jug #	Vol (L)	Isotope	Activity		Isotope	Activity		If chemical(s) present enter number code from back & concentration					
				(kBq)	(uCi)		(kBq)	(uCi)	Code	% by vol	Code	% by vol	Code	% by vol
S	1	4	H-3	( )	( 25 )	( )	( )	( )	89	1	90	10		
E	2	20	P-32	( )	( 20 )	( )	( )	( )	89	1	87	15		
C	3			( )	( )	( )	( )	( )						
B	4			( )	( )	( )	( )	( )						
	5			( )	( )	( )	( )	( )						
	6			( )	( )	( )	( )	( )						
	7			( )	( )	( )	( )	( )						
	8			( )	( )	( )	( )	( )						

### Scintillation Vials



- Package glass and plastic vials separately
- Use only OSEH approved scintillation cocktail
- Attach label to side of box

Manifest # R-12345	Isotope	Activity (uCi)		University of Michigan 1655 Dean Road Ann Arbor, MI 48109-2159 Phone: (734)763-4568 Emergency Contact (24 hours): (734)763-1131
Container # Box 1	P-32	15		
Date (mo/day/yr) 07/31/09				
RADIOACTIVE - LSA				

SCINTILLATION VIALS (Indicate on the box whether the vials are plastic or glass)												
REQ	Box #	Isotope	Activity		Isotope	Activity		Isotope	Activity		Plastic or Glass	Identify Scintillation Cocktail
			(kBq)	(uCi)		(kBq)	(uCi)		(kBq)	(uCi)		
S	1	P-32	( )	( 15 )	( )	( )	( )	( )	( )	( )	P	Scintiverse
E	2		( )	( )	( )	( )	( )	( )	( )	( )	P	G
C	3		( )	( )	( )	( )	( )	( )	( )	( )	P	G
C	4		( )	( )	( )	( )	( )	( )	( )	( )	P	G
C	5		( )	( )	( )	( )	( )	( )	( )	( )	P	G

### Sharps and Stock Vials



- Sharps include needles, razor blades, scalpels, or anything that can easily puncture the skin
- Place stock vials in their original shielded container, then package in a box
- Attach label to handle of pails or side of package

Manifest # R-12345	Isotope	Activity (uCi)		University of Michigan 1655 Dean Road Ann Arbor, MI 48109-2159 Phone: (734)763-4568 Emergency Contact (24 hours): (734)763-1131
Container # Package 1	P-32	5		
Date (mo/day/yr) 07/31/09				
RADIOACTIVE - LSA				

REQ	Pkg #	Sharps	Stock Vial	Other	Isotope	Activity		Isotope	Activity		Isotope	Activity		PIGS ( )	
						(kBq)	(uCi)		(kBq)	(uCi)		(kBq)	(uCi)	LEAD	BARRUM
S	1	✓			P-32	( )	( 5 )	( )	( )	( )	( )	( )	( )		
E	2	✓			P-32	( )	( 10 )	( )	( )	( )	( )	( )	( )		
C	3		✓		P-32	( )	( 50 )	( )	( )	( )	( )	( )	( )		
D	4					( )	( )	( )	( )	( )	( )	( )	( )		

Retain photocopy for your files

Authorized User: Joe Smith Phone: 763-4568  
 Room/Building: A100 MSRB III Date (mo/day/yr): 07/31/2009  
 Completed By: Jane Smith \*Signature: Jane Smith

\*Signature indicates that each container has been swiped for external contamination (staple a copy of survey results to manifest).

IN CASE OF EMERGENCY CONTACT  
 PUBLIC SAFETY (24 HOURS) AT (734) 763-1131

DOC mRbr Initials LSA-II  
 OSEH Use Only Exclusive Use Shipment