



MATERIAL PACKING CHART

Chemicals/Biological Agents	Packing	Comments	Outside Container Labeling
Flammable Solvents	Pack all chemicals in original containers if possible. If not, wrap each glass container with packing material and place in a solid container capable of holding weight when picked up. Plastic containers can be placed in the same transport container without packing material. All lids must be securely tight and no leakage will be allowed.	Flashpoints of less than 100° F must be packed in ice packs or portable cooler.	FLAMMABLE Mark UP direction on any outer container with arrows
Flammable Solids	Must remain stabilized in media (mineral oil, liquid). Each individual container will be separately packed.	Dangerous	FLAMMABLE SOLID Mark UP direction on any outer container with arrows
Corrosives	Corrosives must be segregated as acids or base. Place each container in their original packing material or place in a sturdy solid container.	Strong acids or bases (pH ≤ 2 or ≥ 10.5)	CORROSIVE ACID Or CORROSIVE BASE Mark UP direction on any outer container with arrows
Reactives	Reactives pose a very serious threat that must be handled very carefully. All reactives must be stabilized and packaged separately.	Consider disposal if you have reactives which are older than 12 months. Diethyl ether and benzoyl peroxide should be disposed of if over 6 months old.	REACTIVES Mark UP direction on any outer container with arrows
Toxics	Must be properly sealed. All containers must have a lid. Each container should be packaged individually.		TOXIC or POISONOUS Mark UP direction on any outer container with arrows
Oxidizers	Separate all oxidizers from flammable solvents and package in individual containers.	If refrigeration is required, place oxidizers in coolers	OXIDIZER Mark UP direction on any outer container with arrows
Non-Hazardous Chemicals / Material	Pack all non-hazardous material and place in containers for transportation. Separate solids from liquids.	Transportation can be any hired mover.	HANDLE WITH CARE

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Radioactive	<p>Pack all radioactive material separately from other items. Radioactive material will be moved separately. Label all outer containers with name of investigator and new room number, in addition to marking outer container with radioactive tape on top and at least two opposite sides. Pack liquids upright in leak-proof containers with cushioning against breakage and secondary containment (could use 4-mil polyethylene solid radioactive waste bag used as outer containment within a box or cooler). Include sufficient absorbent material to contain any leakage. Mark UP direction on any outer container with arrows and label with radioactive tape.</p> <p>Pack solids in strong, tight boxes. Solid material should also be in leak-proof containers and 4-mil plastic waste bags or plastic wrap could be used as outer containment to avoid contaminating boxes, coolers, etc.</p> <p>Place perishable items in coolers with appropriate refrigerant to maintain ice or dry ice temperature. Cool Pack bags are preferable. Ice if used should be put in strong plastic bags. Plan ahead for transfer or setup of any necessary refrigeration equipment at new lab location.</p> <p>Sufficient shielding should be used so that no package emits more than 0.5 mRem/hour at its outer surface.</p>		<p>RADIOACTIVE MATERIAL</p> <p align="center">↑</p> <p>Mark UP direction on any outer container with arrows and label with radioactive tape.</p> 
Biological Agents – Infectious: RG 2 or 3; BSL-2 or 3 and Non-infectious)	<p>Use triple packaging: Secure top of primary container (test tube, specimen cup, etc.) with tape, paraffin or wire. Place tubes in racks then place in leakproof plastic bag or container with absorbent material. Or place primary containers in secondary leak proof container or plastic bag with absorbent material. Place in cooler / ice chest (preferred) or sturdy cardboard box. Use cushioning material as appropriate.</p>		<p>BIOLOGICAL AGENTS - INFECTIOUS</p> <p>Mark UP direction on any outer container with arrows and label with BIOHAZRD Symbol</p>
Biological Agents – Non Infectious: RG-1/ BSL-1	<p>Secure each original container. Put in leak proof over pack with absorbent material and ice packs as needed. Transport in cooler / ice chest.</p>		<p>BIOLOGICAL SPECIMENS – BSL-1 NON-INFECTIOUS</p> <p>Mark UP direction on any outer container with arrows</p>

GENERAL EQUIPMENT AND LAB CLEARANCE INSTRUCTIONS

Equipment

- 1) Refrigerators and freezers:
 - a. Should be defrosted, cleaned, decontaminated and dried, then inspected by EHSRM before moving (a good blow-dryer used with CAUTION might speed any defrosting).
 - b. Units that stored biological agents must be surface decontaminated with a 1%-10% bleach solution or other appropriate disinfectant like alcohol or phenolic based such as Amphyl, or Lysol IC.
 - c. EHSRM will attach a "CLEARANCE" tag to each unit – units without clearance tags will NOT BE MOVED
- 2) Any other major equipment (centrifuges, scintillation counters, etc.) to be handled by movers and used for radioactive work, or biosafety cabinets, analyzers, sequencers, centrifuges or automated pipettor units used with infectious agents, blood or blood components must also be inspected and tagged by EHSRM before moving.
- 3) Minor items of equipment used for radioactive or infectious agent work may be placed in plastic bags or wrapped with plastic wrap to prevent transfer of contamination to packing materials and packed in a separate box marked with radioactive tape or biohazard sticker as appropriate.
- 4) Any unwanted equipment used with radioactive materials, hazardous chemicals, or biological agents must be cleaned and decontaminated by the lab and inspected and tagged by EHSRM before transfer to surplus

Closeout of Old Lab

- 1) Radioactive Materials in lab: Do not allow anyone to move into your old lab until it has been cleaned and the RSO or designee has performed a closeout survey and found the lab to be free of contamination and signed the LAB CLEARANCE notice.
 - a. Do not leave any radioactive items or materials behind in your old lab
 - b. Any unwanted radioactive material must be disposed of
- 2) Biological Agents in lab: Do not allow anyone to move into you old lab until it has been cleaned and surfaces decontaminated with appropriate disinfectant and the LSO or designate has inspected the facility and your decontamination processes and signed the LAB CLEARANCE notice.
 - a. Biosafety cabinets remaining in lab should be surface decontaminated with appropriate disinfectant – if 10% bleach soln or phenolic is used, follow with a 70% alcohol rinse (these solns are corrosive to stainless steel if left unrinsed).
- 3) Chemicals in the lab: All hazardous and non-hazardous chemicals must be removed from your lab and the LSO, Environmental Protection Safety Manager, or designee must perform a closeout survey for proper chemical removal / decontamination and sign the LAB CLEARANCE notice prior to allowing another PI or Lab Supervisor to move in.
 - a. Every effort should be made to transfer chemicals not being moved to another member in the department.
 - b. Old or unwanted chemicals must be declared as waste and properly categorized, labeled, and tagged as hazardous waste as required by UTSA EHSRM procedures – refer to the Laboratory Safety Manual.

Radiation Safety Officer (RSO) = Jim Lewis, PhD: tel. 458-5250 or e-mail Jim.Lewis@utsa.edu

Laboratory Safety Officer (LSO) = Wendy McCoy: tel. 458-5250 or 6101; e-mail Wendy.Mccoy@utsa.edu

Environmental Protection Safety Manager = Richard M Garza: tel. 458-5250 or 458-5808; e-mail Richard.Garza@utsa.edu

UTSA Intra-Facility Hazardous Material Transport Guide

All packing of chemicals must be done by the laboratory staff

See MATERIAL PACKING CHART for packing instructions

To determine which hazard takes precedence, see following priority list: 1) Radioactive; 2) pyrophoric; 3) flammable liquid; 4) corrosive (acid/base); 5) water reactive; 6) flammable solid; 7) oxidizer; 8) toxic; 9) infectious biological agents; 10) combustible (label warning); 11) low or non-hazardous.

Hazardous Materials

(To be moved by EHSRM)

(check if applicable)

- Corrosive Acids ($\text{pH} \leq 2$)
Total Volume _____
of boxes _____
- Corrosive Bases ($\text{pH} \geq 10.5$)
Total Volume _____
of boxes _____
- Flammable Solvents
Total Volume _____
of boxes _____
- Flammable Solids
Total Volume _____
of boxes _____
- Reactives
Total Volume _____
of boxes _____
- Toxics
Total Volume _____
of boxes _____

- Oxidizers
Total Volume _____
of boxes _____
- Radioactive Materials
Total Volume _____
of boxes _____
- Biological Agents – Infectious
Total Volume _____
of boxes _____

Low Hazard or Non-Hazardous Material

(To be moved by self or by movers)

- Irritants
- Biological Agents – Non-infectious
- Weak or Non-Corrosives ($\text{pH} 5$ to 10.5)