

**University of Colorado Health Science Center  
Health and Safety Division**

**UCHSC GUIDE FOR FITZSIMONS MOVES**

(Revised March 2005)

**HEALTH AND SAFETY DIVISION  
OFFICE OF THE VICE CHANCELLOR FOR RESEARCH**

**DIVISION CONTACTS**

Terry Howard, CIH, Director, 303-724-0242 [terry.howard@uchsc.edu](mailto:terry.howard@uchsc.edu)  
Riad Safadi, Radiation Safety Officer, 303-724-0234, [riad.safadi@uchsc.edu](mailto:riad.safadi@uchsc.edu)  
Gary Roesch, Hazardous Waste Manager, 303-724-0294, [gary.roesch@uchsc.edu](mailto:gary.roesch@uchsc.edu)  
Therese Stinnett, Biosafety Officer, 303-724-0235, [therese.stinnett@uchsc.edu](mailto:therese.stinnett@uchsc.edu)

The Division's main office is located at Bldg 500, N2226, Fitzsimons Campus,  
303-724-0345  
Offices at 9<sup>th</sup> and Colorado campus are in the Cooling Tower.

**WEB Address** [www.uchsc.edu/safety](http://www.uchsc.edu/safety)

**Other Important Contact Information**

Fire and Life Safety  
Wayne Blubaugh, Fire and Life Safety, 303-724-0293

Space Requests  
Mollie Anchustegui, Manager, Space Acquisition, 303-724-0731

Equipment Disposal  
Thomas Johnston, Property Management, 303-724-0071

**Central Environmental Services (Custodial Services)**

Wilfred Agnew	303-315-6838
Tom Simon	303-315-8307
Robert Williams Sr.	303-315-5624

Building Operations and Maintenance  
Work Center 303-315-7941

## INTRODUCTION

This pamphlet is intended for the use of all principal investigators, laboratory staff and department administrators to guide you through the required steps for moving labs to Fitzsimons Campus and to provide you with the information to accomplish these steps. This guidance applies to all laboratories moving between 9<sup>th</sup> & CO and Fitzsimons and moving from an off-site location to Fitzsimons.

Ultimate responsibility for hazardous materials management lies with each department or division of the University of Colorado Health Sciences Center (UCHSC).

The proper disposition of all hazardous materials used in laboratories is the responsibility of the Principal Investigator or researcher to whom a laboratory is assigned.

Please anticipate finding unknown or unlabelled materials in the laboratory. Departments are responsible for identifying all potentially hazardous materials to be moved or submitted for disposal. Any costs associated with analyzing unknowns will be charged back to the appropriate department.

If laboratories are improperly abandoned and management of hazardous materials at close-out requires removal or cleaning services from HSD or from an outside contractor, costs associated with this will be charged back to the appropriate department.

Any regulatory action or fines resulting from improper management or disposal of hazardous materials will be charged back to the responsible department. HSD will not be responsible for loss incurred by individuals or departments as a result of regulation-mandated removal of hazardous materials.

A general move contractor with a qualified chemical lab-packing contractor (LPC) will package and transport all hazardous and non-hazardous chemical reagents. Moving hazardous materials without following the stringent regulatory requirements is both dangerous and illegal and will not be permitted.

A chemical inventory is required to prepare for this move. Departments will be expected to assume any costs associated with moving any materials not included in the inventory. Individual researchers will not move any hazardous materials to Fitzsimons on their own.

In laboratories where chemical, infectious or radioactive materials have been used, the departing laboratory staff is responsible to ensure that all laboratory surfaces and equipment have been properly disinfected or decontaminated.

## **DECOMMISSIONING and “GREEN-TAGS”**

### **Equipment**

All laboratory equipment being moved to Fitzsimons will go through the UCHSC decommissioning or “green-tag” process and be tagged prior to being moved.

As a reminder, commercial move personnel and UCHSC facilities staff are not permitted to move any furniture or equipment in or out of a laboratory, or clean a laboratory until the laboratory has been properly cleared of hazardous materials, disinfected/decontaminated and green-tagged.

This requires cleaning and decommissioning of the equipment and laboratories by laboratory staff in conjunction with assistance from HSD staff. Appropriate cleaning is confirmed with a green-tag issued by a Health and Safety representative for each piece of equipment or room.

Examples of items to clean or decontaminate include:

Incubators	Glassware
Centrifuges	Carts, Water Baths, Sample Holders
Liquid Scintillation Counters	Refrigerators, Freezers
Gamma Well Counters	Waste Containers
Chemical Fume Hoods	Pipette Washers
Biosafety Cabinets	Acid Baths
Fume Hoods	Bench Tops, Sinks, Shelves, Cabinets

The following laboratory equipment needs specific attention prior to being shipped to Fitzsimons:

1. Photo Processing Equipment – drain photographic fixer, developer and rinse water storage tanks. Recycle the spent silver recovery cartridge through your supplier.
2. Remove mercury thermometers – from heating blocks, ovens, refrigerators, freezers, incubators, water baths and other equipment.
3. HPLC – drain solvents from both supply and drain lines.
4. Centrifuges – remove tubes holding liquids from the rotor.

Research equipment or laboratory surfaces contaminated with toxic, carcinogenic or mutagenic chemicals require adequate cleaning with an appropriate cleaning solution. For most chemicals, strong scrubbing with soap and water should be adequate to remove the chemical contamination.

**Non-RAM equipment--** Equipment NOT potentially contaminated with radioactive material.

Once laboratory personnel complete cleaning/disinfection or decontamination of lab equipment, they will post green-tags issued by HSD on the laboratory equipment

Lab equipment or surfaces contaminated with potentially infectious materials require cleaning with appropriate disinfectants. This includes, but is not limited to, potential contamination from: human blood and bodily fluids; infectious agents, including cell culture materials that have been infected; infectious stocks or cultures. Information on appropriate disinfectants is available.

[Biosafety cabinets \(BSC\)](#) (also called tissue culture hoods) in which infectious materials have been used must have all working surfaces, including the sides and ceiling, wiped with a suitable disinfectant. If a BSC is to be moved, it may require disinfection with paraformaldehyde gas. Consult the [Biosafety Office](#) (40235) for further information. All biosafety cabinets moved to Fitzsimons be certified at the new location as part of the project.

**RAM-Equipment:** Equipment that is potentially contaminated with radioactive material

Before decommissioning, equipment that is potentially contaminated with radioactive material must be surveyed with an appropriate portable detection instrument and a smear survey counted in a Liquid Scintillation Counter or Gamma Counter. The results of these surveys must be documented on the proper HSD form.

<http://www.uchsc.edu/safety/radsaftey.htm>

For more information on green-tagging for equipment that is potentially contaminated with radioactive material, please consult the HSD Guidance Note for Radioactive Laboratories moving to Fitzsimons

<http://www.uchsc.edu/safety/radsaftey.htm>

Once departing laboratory personnel complete the necessary decontamination of RAM-equipment and surfaces, HSD must be contacted for a final inspection. They will provide the green-tags for those items at that time.

## **Laboratories**

Once the lab is completely moved to Fitzsimons, arrangements must be made to confirm with an HSD representative that there are no hazardous materials or contaminants of any lab surfaces (benchtops, floors) so that the lab may be green-tagged and turned over for reassignment.

### Sinks

Special attention needs to be paid to sinks in laboratories, whether they are full size sinks or cup sinks located in benchtops or fume hoods. All sinks will be flushed for two minutes with cold water to minimize the chance of a contaminant remaining in the trap.

### Shared Storage Areas

Laboratory staff should carefully survey any shared facility in order to locate and appropriately dispose of their hazardous materials.

## **HAZARDOUS MATERIALS**

The identification of the hazardous materials in the laboratory (biological, chemical and/or radiological) is required beforehand, to make appropriate arrangements for moving those materials.

Hazardous materials include:

- all radioactive materials, including sealed sources
- all chemicals
- any metallic mercury-containing equipment or items
- many biological materials

## **RADIOACTIVE MATERIALS**

Laboratories moving to Fitzsimons must discontinue work with radioactive material five days prior to moving. After this time all radioactive materials will either be disposed of as waste or packaged for HSD transport to Fitzsimons. For more information on relocating radioactive materials laboratories to Fitzsimons, consult the HSD Guidance Note for Radioactive Material Laboratories moving to Fitzsimons <http://www.uchsc.edu/safety/>

### Mixed Hazardous Wastes

Occasionally it is necessary to dispose of materials or wastes that contain radioactive and RCRA hazardous chemical wastes (flammable, corrosive, reactive or toxic). These materials require significant time and effort to dispose of in accordance with all environmental regulations. Contact the Radiation Safety Section at 303-315-5895.

## **CHEMICALS**

Limit purchases of new chemicals 3 months prior to the move. Purchase what you can reasonably expect to use in that time frame. Recycle useful chemical reagents you no longer need to other UCHSC researchers if possible.

**NOTE:**      Tax Free Purchases of 200 Proof or Absolute Ethanol

Absolute ethanol will not be available from UCH Pharmacy for purchase at Fitzsimons. It absolutely **must not** be obtained from UCH at 9<sup>th</sup> Ave and transported to Fitzsimons. That is a violation of federal law.

Any stock on hand at 9<sup>th</sup> and Colorado laboratories **must not** be moved to Fitzsimons. It must be disposed of through Hazardous Waste Management. New supplies must be purchased once at Fitzsimons.

Other arrangements up to and including obtaining an ATF license/permit, are necessary to be able to purchase tax-free 200 proof ethanol.

Flammable Liquids

**Please be aware that the Fitzsimons research buildings are designed to accommodate a maximum of 480 gallons of flammable liquids on each floor (total all areas, including inside of flammable liquid cabinets).**

No more than 2 gallons of flammable solvent allowed outside of an approved storage cabinet, within each laboratory module at Fitzsimons.

Please keep in mind that many organic solvents (acetonitrile, alcohols, alkanes, aromatics, ketones, etc.) are flammable solvents.

Quantities will be strictly regulated by the Fire and Life Safety Officer.

Moving Chemicals

If your laboratory is moving onto either campus from an off-site location, be aware that the United States Department of Transportation (DOT) has strict packaging, labeling, marking and paperwork requirements for shipping hazardous materials on public roads.

All hazardous and non-hazardous chemical reagents will be properly packaged and transported by trained contractors (Lab Packing Contractors (LPC) as part of the move.

## UCHSC Guide For Fitzsimons Moves

Researchers are required to complete the following:

- All containers of chemicals must be labeled with the complete chemical name.
- All containers must be securely closed with a properly fitting lid.
- Beakers, flasks, evaporating dishes, etc. must be emptied and cleaned.
- Check refrigerators, freezers, fume hoods and bench tops as well as storage cabinets for chemical containers.
- Be certain to include the reagent containers on all equipment or instruments that may have attached chemicals or waste containers such as synthesizers, sequencers, HPLC, etc. These will have to be removed when your moving date arrives. The filled waste containers must be dealt with as waste, prior to the move.

### Chemical Wastes

All chemical wastes, expired chemicals or those materials which cannot be moved\*, must be disposed of through Hazardous Waste Management, preferably when you do your inventory. Chemical waste pickups must be completed before the move begins.

Dispose of outdated chemical reagents and chemical wastes through the HSD Hazardous Waste Section. Sixty days prior to moving, sort through all your chemical reagents and segregate the outdated ones for disposal. Call the UCHSC the Hazardous Waste Section at x40127 or email [gary.roesch@uchsc.edu](mailto:gary.roesch@uchsc.edu) to set up an appointment to remove all your unwanted chemicals (Chemical waste forms are not necessary).

## **BIOLOGICAL MATERIALS AND INFECTIOUS AGENTS**

### Cultures& Stocks of Infectious Materials

Infectious materials are subject to the requirements of the DOT when being moved or shipped. UCHSC will be moving these materials to Fitzsimons under an exemption to the regulations. These materials will be moved in ultracold freezers or liquid nitrogen freezers only.

### Human and Animal Cell Culture Materials

We strongly encourage all laboratories working with human or animal cell culture materials to plan for the movement of these materials, whether at ambient temperatures or frozen.

This will allow appropriate time to clean incubators and other equipment, and go through the other requisite steps for the move.

### Preserved Tissue and Specimens

Any tissue or specimen preserved in formaldehyde, mercuric chloride or other preservatives should be included in your chemical inventory, using the preservative name and volume. These containers **MUST** be shipped as a hazardous material by the LPC. All containers **MUST** be **PROPERLY SEALED** (so they cannot leak) and labeled with the full chemical name to be lab-packed and moved.

### Biomedical Wastes

All infectious wastes must be packaged appropriately in approved biohazard boxes or plastic tubs. All sharps containers in use, whether or not they are full, must be disposed of as waste prior to the move.

Animal or human tissues in liquid preservative for disposal must have the liquid decanted. Contact the Hazardous Waste Manager, for assistance with the disposal of the preservative. The tissues must be disposed of by incineration, in yellow biomedical waste tubs with yellow barcode labels.

### **Surplus Equipment**

If laboratory equipment is to be discarded, it must be declared to Asset Management (Weblink) prior to disposal. It must be cleaned/disinfected/decontaminated as appropriate. Equipment potentially contaminated with radioisotopes must be surveyed by the authorized user and the Radiation Safety Office. It will then be green-tagged by Health and Safety Division, prior to disposal.

Be aware that capacitors, transformers, mercury switches, mercury thermometers, radioactive sources and chemicals must be removed before disposal. Contact the Health and Safety Division, Biosafety Office, 303-724-0235, for assistance.

Refrigerated equipment being turned in for disposal must be surveyed and decontaminated as indicated above. In addition, arrangements must be made with the Refrigeration Shop (x 57941) for removal/disposal of Freon in these units. Freon will not be removed until the equipment is decontaminated and green-tagged by HSD.

## **OTHER USEFUL INFORMATION**

### **SELECT AGENTS**

Any non-exempt Select Agents materials must not be moved by any outside contractors. [Biosafety Office](#) staff will be moving them.

### **CONTROLLED SUBSTANCES**

Controlled substance registrations (permits) are issued by the US Drug Enforcement Agency (DEA) and are issued to individual researchers. Should you need a new permit, please refer to the DEA website at:  
<http://www.deadiversion.usdoj.gov/drugreg/index.html>

To amend existing permits:

Permits for controlled substances must be amended with the DEA. This takes 6 to 8 weeks. Permit holders will be assigned to a DEA investigator and may require a site visit prior to approval.

The change of address form and additional information are available from the [Biosafety Office](#), x40235.

These items must **not** be moved by any outside contractors or HSD staff. They must be inventoried (written documentation) by the permit holder per DEA regulations, moved by the permit holder, and re-inventoried upon arrival at FITZ and secured.

If a Controlled Substance is also a DOT hazardous material (flammable or toxic), it cannot be moved to Fitzsimons and should be disposed of as hazardous waste.

#### **NOTE:**

Paraldehyde may not be shipped to Fitzsimons because it is a DOT hazardous material (flammable solvent), therefore this drug must be disposed through UCHSC Health & Safety.

Pentobarbital, phenobarbital, secobarbital and morphine sulfate may not be shipped to Fitzsimons because these compounds are classified as DOT hazardous material (toxic solid), therefore these drugs must be disposed through UCHSC Health & Safety.

Permission to transfer ownership of a controlled substance to another individual must be received from DEA. Abandonment of a controlled substance is a violation of the DEA permit under which it was held.

## **COMPRESSED GAS CYLINDERS**

Remove gas connections, replace cylinder caps, and request that the cylinders be picked up from 9<sup>th</sup> and Colorado laboratories prior to the move date, by submitting the electronic request form to Materials Management:

<http://www.uchsc.edu/materials/cylinder.htm>

Materials Management, x 57035.

For expired compressed gas cylinders which are non-returnable or for lecture bottles, submit the UCHSC Chemical Waste Disposal Form to Health & Safety for disposal. Contact the UCSHC Hazardous Waste Manager (x57895) if you have useful non-returnable cylinders or lecture bottles to ship to Fitzsimons. DO NOT dispose of them in trash.

## LABORATORY CLOSE-OUT CHECK-LIST

Laboratory Closed Out (Bldg. & Room) \_\_\_\_\_

PI Name & Phone ext. \_\_\_\_\_

Move Date to RC 1 \_\_\_\_\_

New Lab Location and Phone ext. \_\_\_\_\_

<u>Hazardous Materials</u>	<u>Date Completed</u> or N/A
<b>Shared Storage Areas/Equipment Rooms</b>	
Check all shared storage areas for hazardous materials, wastes and equipment.	
<b>Glassware</b>	
All glassware is cleaned and properly packed for the move. Dish packs, with dividers and packing materials provided by movers.	
<b>Chemical Reagents</b>	
Inventory all chemicals to be shipped to Fitzsimons in the <a href="#">on-line chemical inventory system</a>	
Any tissue or specimen preserved in formaldehyde, mercuric chloride or other toxic preservatives should be included in your chemical inventory, categorized by the preservative.	
45 days prior to move, sort and segregate all outdated or expired chemical reagents. Contact the UCHSC Hazardous Waste Section, (x40127) to set an appointment to remove these items as waste. (Chemical Waste Disposal Forms not required) See HSD Guidance Note: "Preparing Chemical Reagents for Shipment to Fitzsimons".	
Researchers will not be allowed to box up any chemical reagents, aerosol cans, paint, bleach, liquids of any kind, gas cylinders or mercury thermometers inside the cardboard shipping containers for shipment to Fitzsimons (Lab Packing Contractor will handle these items). See HSD Guidance Note: "Researchers Preparing Shipping Boxes".	
All containers holding chemicals must be labeled with complete chemical name. Researchers must give all chemical reagents (hazardous & non-hazardous) to the Contractor for lab-pack and transportation to Fitzsimons.	
All chemical containers must be in good condition and properly sealed with correct fitting lids so they do not leak in transit. <b>ONLY PROPERLY SEALED CHEMICAL CONTAINERS WILL BE MOVED BY LAB PACKING CONTRACTOR.</b>	
Researchers will be responsible for properly preparing all their molecular biology grade chemicals (RNase, DNase & Protease free reagents) for shipment by sealing them inside clear plastic bags. The Lab Packing Contractor will transport these chemicals to Fitzsimons.	
Researchers will <u>not</u> be allowed to ship any 200 or 190 proof ethanol to Fitzsimons; therefore this solvent must be given away to other researchers remaining at the 4200 E. 9 <sup>th</sup> avenue campus or disposed through Health & Safety as waste. Health & Safety will be responsible for distributing tax free ethanol to researchers at Fitzsimons.	

## UCHSC Guide For Fitzsimons Moves

<b>Radioactive Materials</b>	
Inventory all radioactive materials, including specimens in ultracold freezers, -20 freezers, etc. A current Inventory sheet will be provided 45 days prior to move. All inventory must be reconciled prior to the move, i.e. all materials must be accounted for in waste or stock material to be transferred. (Note: Inventory sheet may include materials that have been recently picked up as waste by H&S)	
Consolidate and place all radioactive materials to be moved to Fitzsimons in a sturdy container with materials to maintain desired temperature. Contact Radiation Safety for packaging instructions.	
Complete Packing List for Radioactive Materials Transfer (HSD-RSF-004) and attach to each box that is going to be moved. (forms will be mailed to each lab that identifies material for transfer)	
Prepare all radioactive wastes for pickup, including completing waste tickets.	
Radiation Safety picks up all waste containers (empties included) as well as radioactive materials to be moved to Fitzsimons the week prior to the move.	
Once all Radioactive materials have been removed from the laboratory, perform both portable detection instrument and smear survey on all equipment and room locations that are potentially contaminated with radioactive material (for H-3 smear survey only). Document surveys on HSD Radioactive Contamination Survey Record for Green Tag (HSD-RSF-005) Submit survey report and LSC or Gamma Counter printout to HSD by fax (315-8026) or mail (Box C275). Due to the aggressive move schedule it is preferred that the survey results be faxed, in order to expedite the green tag process.	
HSD representative visits laboratory to apply radioactive material green tags the week prior to the move.	
<b>Mixed Wastes</b> (Isotopes mixed with flammable, corrosive, reactive or toxic chemicals)	
Identify mixed wastes with the Radiation Safety Office (55895) NO LATER THAN 60 days prior to move.	
Arrange for waste pickup by calling (55892) or online at <a href="http://www.uchsc.edu/safety/RadiationSafety/OnLineForms/wastepu.htm">http://www.uchsc.edu/safety/RadiationSafety/OnLineForms/wastepu.htm</a>	
<b>Compressed Gas Cylinders</b>	
Return all large "General Air" compressed gas cylinders to Materials Management by submitting the electronic request form (x57035). <a href="http://www.uchsc.edu/materials/cylinder.htm">http://www.uchsc.edu/materials/cylinder.htm</a>	
Non-returnable gas cylinders or lecture bottles may be disposed through the HSD Hazardous Waste Section (x40127) by submitting the UCHSC Chemical Waste Disposal Form through the campus mail.	
The Lab Packing Contractor will ship to Fitzsimons useful gases including lecture bottles and other compressed gas cylinders purchased from suppliers other than General Air.	
<b>Biological Specimens</b>	
If preserved in 10% formalin or other preservative, the containers MUST be shipped as a hazardous material. They MUST be PROPERLY SEALED TO BE MOVED by the Lab Packing Contractor.	
Stocks and cultures of infectious agents/materials. Must be frozen back and shipped in the ultracold or -20 freezers under our DOT exemption.	
Tissue culture materials that are NON-INFECTIOUS may be shipped at ambient temperatures. They MUST be PROPERLY SEALED TO BE MOVED.	

## UCHSC Guide For Fitzsimons Moves

<b>Laboratory Equipment</b>	
Identify laboratory equipment to be disposed of or surplused, in advance of move. Contact Asset Management (40071) regarding disposal of equipment.	
Identify vacuum lines, plumbing or electrical connections that need to be disconnected prior to the move.	
Identify any mercury-containing equipment or items with mercury thermometers. Exchange mercury thermometers with Health and Safety. Offer all mercury containing equipment to Lab Packing Contractors for shipment to Fitzsimons.	
Clean or decontaminate equipment to be moved according to the Health & Safety guidance note; "Decontamination Procedure for Laboratory Equipment". Apply green-tags to decontaminated equipment items.	
Water-jacketed incubators must be drained.	
Clean refrigerators/freezers/incubators. Disinfectant used: Apply green-tags.	
<b>Refrigerators &amp; Freezers</b>	
Refrigerators must be completely emptied of all contents by researchers prior to shipment. Non-hazardous supplies will be placed inside portable coolers (no hazardous chemicals allowed). All refrigerated hazardous chemicals will be provided to the Lab Packing Contractor for shipment to Fitzsimons along with the other laboratory chemicals.	
-70 & -20 freezers may be shipped with most contents intact (remove all hazardous chemicals & chemicals which remain liquids). Prepare an inventory of all materials stored inside freezer and attach copy to outside of freezer and provide copy to moving contractor.	
<b>Controlled Substances</b>	
Update DEA license with the DEA prior to the move.	
Materials must be inventoried before moving with written documentation. Must be stored in secured containers, not accessible by unauthorized personnel.	
Do <b>not</b> give controlled substance to the Lab Packing Contractors.	
UCHSC Police Department will provide transportation in University vehicles to those PIs who need to move controlled substances.	
Inventory controlled substances upon unpacking. Secure containers.	

Principal Investigator \_\_\_\_\_ Date \_\_\_\_\_

HSD Representative for Green Tag \_\_\_\_\_ Date \_\_\_\_\_