

## ***OCCUPATIONAL & ENVIRONMENTAL SAFETY SERVICES***

Title: <b>Laboratory Equipment Release</b>	Document No.: Campus 02-103 Revision No.: 1
Nature of Change: New Format	

**1.0 Purpose:** The purpose of this document is to prescribe procedures to be followed to safely and legally release to unrestricted use laboratory equipment, which may potentially be contaminated by hazardous chemical, radiological, or biological materials. Adherence to this procedure will ensure that employees, students, and members of the public are not needlessly exposed to potentially dangerous materials, and that no materials are inappropriately released to the environment.

**2.0 Scope:**

- 2.1 This procedure applies to all potentially contaminated equipment originating from any laboratory where radiological, hazardous chemical or biologically hazardous materials are used, created, or stored. This may include but is not limited to fume hoods, benches, autoclaves, centrifuges, refrigerators, freezers, incubators, BioSafety cabinets, and analytical equipment (hereinafter “the equipment”).
- 2.2 This procedure applies to equipment originating from campus facilities and from off-campus locations as well.

**3.0 Responsibilities:**

- 3.1 Deans, Directors, and Department Chairs – will ensure that all Faculty and Principal Investigators receive a copy of this procedure, are instructed that it is necessary to comply with the terms of this procedure, and will ensure that this procedure is followed.
- 3.2 Faculty and Principal Investigators – will ensure that all laboratory personnel have access to a copy of this procedure, that the procedure is followed, that any unusual problems are referred to Occupational and Environmental Safety (OES) Services for discussion and resolution.
- 3.3 Laboratory Staff and Students – will follow this procedure, and will refer any problems or questions to their supervisor.
- 3.4 Occupational and Environmental Safety Services – will provide consultative support, will assist in managing unusual or special problems, and will authorize any necessary deviations from this procedure.

**4.0 Definitions:**

- 4.1 Employees: University at Buffalo Facilities employees
- 4.2 Equipment: Any laboratory equipment used for research or storage of research materials, including but not limited to fume hoods, autoclaves, centrifuges, refrigerators, freezers, incubators, etc.

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- 4.3 Materials: Hazardous, radiological, or biological materials
- 4.4 OES: Occupational and Environmental Safety Services
- 4.5 Safe or Safety: Having no exposure to potentially dangerous concentrations of materials

**5.0 Procedures:** Implement the “Checklist for Unrestricted Release of Equipment Containing Hazardous Chemicals and Biological Agents (see Exhibit 1) and the “Checklist for “OK to Service” and Unrestricted Release of Equipment Used with Radioisotopes” (see Exhibit 2).

5.1 Material Removal –

- 5.1.1 All hazardous chemical, radiological, or bio-hazardous materials shall be removed from equipment, placed in appropriate packaging, and placed in an appropriate storage facility or disposed of in accordance with established procedures before release of equipment.
- 5.1.2 Chemicals designated for disposal shall be disposed of in accordance with the Chemical Waste Management Guide or Laboratory Waste.
- 5.1.3 OES staff, in accordance with established procedures, will pick up radiological materials designated for disposal.
- 5.1.4 Bio-hazardous materials will be disposed of as regulated medical waste in accordance with established procedures. These materials may first be treated by chemical or high temperature methods to reduce risk prior to disposal as regulated waste.
- 5.1.5 Some materials require support by trained specialists, such as the removal of internal radioactive sources from liquid scintillation counters. The department or principal investigator shall make arrangements with the counter manufacturer for the proper removal and disposal of the sources. All such work must be documented.

5.2 Decontamination -

- 5.2.1 All hazardous chemical, radiological, or bio-hazardous materials shall be removed from facility surfaces before release of the facilities. Decontamination shall be performed as outlined herein:

Radiological Materials – radioactive contamination shall be removed by standard radiological decontamination methods. The maximum level of residual radioactivity shall be as determined by OES policy, or by Chapter 1, Part 16 of the State Sanitary Code, whichever is more limiting. A documented “close out survey” shall be conducted by OES. Surveys will be performed by the Principal Investigator to demonstrate that decontamination limit has been achieved. These surveys shall be documented, and records shall be available for review by OES or by the Department of Health. The Principal Investigator shall notify OES of the

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impending close out. The area will then be posted in accordance with OES policies. All waste generated in the course of decontamination shall be disposed of as radioactive waste. After the close out survey is completed radioactive labels and stickers shall be removed or defaced.

Chemical Residues – shall be removed, neutralized, or otherwise rendered non-hazardous using an appropriate method determined by the chemical and physical characteristics of the contaminant(s), and the physical nature of the facilities surfaces. Hazard labels shall be removed or defaced as appropriate. The decontamination method shall be documented, and records shall be available for inspection by OES. Any incidental wastes shall be disposed of properly.

Bio-hazardous Contaminants - shall be removed or rendered non-pathological. Typically this will be accomplished using a bleach solution or other chemical means. Hazard labels shall be removed or defaced as appropriate. The decontamination method shall be documented, and records shall be available for inspection by OES. Any incidental wastes shall be disposed of properly as regulated medical waste.

- 5.3 Certification and Labeling - Once Material Removal and Decontamination have been completed the Principal Investigator (or other authorized individual as designated in writing), shall affix an equipment release certification tag to the equipment (see Exhibit 3). All sections of the tag shall be completed with the relevant information or “NA” as appropriate. A copy of the tag will be retained, and shall be available for inspection by OES.
- 5.4 Equipment with No Potential for Contamination - Some equipment within laboratories has essentially no potential for contamination. This would include computers and office equipment, audio-visual equipment, cameras, optical equipment, food storage refrigerators etc. No decontamination of this equipment is required and the “No potential for Contamination” box shall be checked on the release tag. In addition to this check off, the name and date section should be completed, and the other sections may be left blank.
- 5.5 Equipment Release - Once the equipment release/certification tag has been affixed to the equipment it may be discarded, stored, or transferred. University Facilities Operations will not pick up or transport any equipment, which has not been tagged.
- 5.6 Special Problems - All special or unusual problems will be referred to OES for resolution. Any deviation from the requirements of this procedure must be approved in writing by OES.

**6.0 Document Management:** This procedure shall be reviewed once every two years, or as changes require.

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### **7.0 Associated Documents:**

- 7.1 “Campus Commitment to Safety,” University at Buffalo, Office of the Provost, Office of the Senior Vice President, April 3, 2001.
- 7.2 Radiation Protection Services “Radioactive Materials Safety Manual”.
- 7.3 Chapter 1, Part 16 of the State Sanitary Code (NYCRR Title 10).
- 7.4 SUNY at Buffalo “Chemical Waste Management Guide”

### **8.0 Document Revision History:**

Revision: 1                      Date of Last Revision: 4-22-02                      Due for Review: 4-22-04

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### **9.0 Reason for Change:**

Revision	Sec/Para Changed	Change Made:	Date
1		New Document format for procedures	4-22-02

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### EXHIBIT 1

# Checklist for Unrestricted Release Certification of Equipment Containing Hazardous Chemicals and Biological Agents

In order to comply with applicable federal and state regulations, all laboratory equipment must be decontaminated prior to releasing the equipment for unrestricted use. Please implement the checklist below to ensure the equipment meets the requirements for unrestricted use.

Chemical and Biohazardous Materials Removal: Depending *on the size of the equipment to be released for unrestricted use, plan enough time to perform all necessary decontamination procedures.*

- A) Remove and properly store any hazardous chemicals or biological materials to be saved.
- B) If the equipment (e.g., refrigerators, freezers, hoods, etc.) contains hazardous chemicals and/or biological agents, determine what can be disposed of (check for items, which might have significant chemical degradation). Process disposal paperwork and have chemical wastes removed by OES (829-2401). Follow your department's procedures for disposing of Regulated Medical Waste for biological/medical waste.
- C) Equipment must be empty of all hazardous chemicals and biological materials prior to certifying the equipment for unrestricted use. In addition, chemical residues, stains, deposits, etc. on or in the equipment must be removed, neutralized, or otherwise rendered non-hazardous to human health or the environment using appropriate chemical and physical methods.
- D) Decontaminate all internal and external surfaces with appropriate solutions that are known to kill the organisms that may be present and/or inactivate the hazardous substances of biological origin.
- E) If gaseous disinfectant (e.g. formaldehyde) is used, appropriate precautions must be taken to prevent a release of the material that may cause adverse effects to humans or the environment.
- F) If decontaminating agents may leave a corrosive or otherwise harmful residue, the surfaces must be rinsed clean of hazardous contaminants.
- G) Hazard labels must be removed or defaced when the respective hazards have been

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removed from equipment.

- H) Final Equipment Survey - After all items are removed from the equipment, do a thorough survey of the equipment (all internal and external surfaces, void spaces, etc.). Decontaminate all internal and external surfaces of the equipment before certifying the equipment for unrestricted use. Affix a signed and dated Equipment Release Certification form to the exterior of the equipment in a prominent location to certify that the equipment poses no hazard to human health or the environment.

***Questions? Call OES 829-2401***

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### EXHIBIT 2

## Checklist for “OK to Service” and Unrestricted Release of Equipment Used with Radioisotopes

In order comply with applicable regulations, use the check list below in order to release equipment used with radioactive materials for repair or release for general use.

1. “OK to Service”: Determine if area to be repaired has been used for radioactive materials.

*Call OES Radiation Safety at 829-3281 if you have any questions or cannot clean items to the levels listed below.*

A. Survey equipment inside and out using both survey meter and wipe survey.

- \_\_\_1) Wipe survey shows less than 3 (three) times background count rate.
  - Use liquid scintillation counting for beta emitting isotopes:  
e.g. H-3, C-14, S-35, P-32, P-33
  - Use a gamma counter for radioisotopes that are gamma emitters:  
e.g. I-125, Co-57, Na-22, Cr-51, Fe-59
- \_\_\_2) Survey Meter scan taken at distance 0.5 cm shows less than 3 (three) times background count rate.
  - Use a pancake GM probe for items that have been used with beta emitting isotopes.
  - Use a low energy gamma probe for:  
I-125, Co-57, or other isotopes that have significant gamma emissions between 10 and 40 keV.
  - Use a high energy gamma probe for:  
Na-22 or Fe-59 or to survey for any gamma emitting isotopes which have an energy above 40 keV.

B. \_\_\_ Remove radioactive materials from area to be repaired.

C. \_\_\_ Remove radioactive materials label **before** sending for repair.

2. Unrestricted Release of Equipment

A. \_\_\_ Do all the above.

B. \_\_\_ Contact OES Radiation Safety to formally survey and tag any item used with radioactive materials **before** it is scrapped or transferred to a new user.

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EXHIBIT 3

**University at Buffalo  
Equipment Release Certification**

- This equipment has no potential for chemical, radiological, or bio-hazardous contamination because it was never used for or in contact with such materials and is hereby released to unrestricted use.
  
- This equipment has been decontaminated in accordance with the University Facilities Equipment Release Checklist and is hereby released to unrestricted use.

Item Description:	Make/Model
Asset Number (if applicable):	Serial #
Item's Current Location - Building:	Room: Department:
Principal Investigator:	Phone #:

**Certification Statement**

*I certify that the above named equipment is free of any hazardous chemical, biological and radioactive materials and I attest that this equipment does not pose a hazard to human health or the environment.*

Certified By:

\_\_\_\_\_

Print

\_\_\_\_\_

Sign

\_\_\_\_\_

Date

*Keep the original for your records, send the second copy to Occupational and Environmental Safety, 220 Winspear Ave, South Campus and affix the bottom card to the equipment*