

PREPARING RADIATION ITEMS FOR SURPLUS

Items associated with ionizing and non-ionizing radiation must be properly prepared prior to sending them to UW Surplus. Additional information is provided on the [Preparing Items for Surplus](#) webpage and in the [Radiation Safety Manual](#).

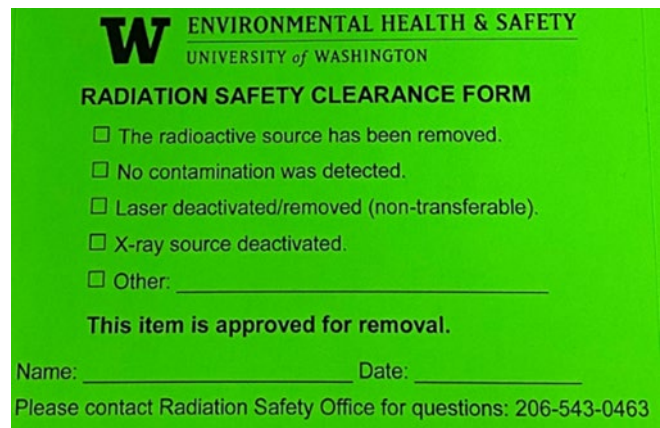
CLEARANCE BY RADIATION SAFETY

The items detailed on this focus sheet **must be checked** by Environmental Health and Safety (EH&S) Radiation Safety and have a **Radiation Safety Clearance Form** (Figure 1) prior to sending the equipment to UW Surplus.

These items include, but are not limited to:

- Any item with a **radioactive sticker**
- **Acrylic radiation shields** and **boxes**
- **Gas chromatographs**
- **Lasers**
- **Liquid scintillation counters**
- **X-ray equipment**

Please contact Radiation Safety at 206.543.0463 or radsaf@uw.edu for clearance of these items.



The image shows a green Radiation Safety Clearance Form from the University of Washington. It includes a checklist of items to be checked for removal, such as 'The radioactive source has been removed', 'No contamination was detected', 'Laser deactivated/removed (non-transferable)', and 'X-ray source deactivated'. There is also a section for 'Other' with a blank line. Below the checklist, it states 'This item is approved for removal.' and provides fields for 'Name:' and 'Date:'. At the bottom, it says 'Please contact Radiation Safety Office for questions: 206-543-0463'.

Figure 1 Radiation Safety Clearance Form

ITEMS NOT ACCEPTED BY UW SURPLUS

Radiation detection equipment

Contact Radiation Safety at 206.543.0463 for assistance.

Lead-containing materials

Examples include lead bricks, lead sheets, lead pigs, lead aprons, lead lined items, etc.

Lead that can no longer be used is recycled. This includes metallic lead that has been painted, encapsulated, or covered. Contact [UW Recycle](#) for recycling instructions.

X-ray film and x-ray plates

These must *not* be placed into the garbage.

Contact EH&S Environmental Programs at 206.616.5835 or chmwaste@uw.edu for assistance and disposal instructions.

RADIOACTIVE MATERIALS

Any equipment or item containing a radioactive source, or that was used for work with radioactive materials, must have a **Radiation Safety Clearance Form** (Figure 1) prior to sending it to UW Surplus.

EQUIPMENT USED FOR RADIOACTIVE MATERIALS

All non-portable equipment (e.g., freezers, centrifuges, etc.) used for unsealed radioactive material work must be surveyed and decontaminated to levels that are as low as reasonable achievable as described in the [Radiation Safety Manual](#). When the equipment will no longer be used for radioactive work, contact [Radiation Safety](#) for a survey of the equipment and removal of “**Caution, Radioactive Materials**” labels.

Radiation Safety must survey and release equipment from regulatory control prior to sending the equipment to UW Surplus. Please contact [Radiation Safety](#) for clearance of this equipment.

ITEMS USED FOR RADIOACTIVE MATERIALS

Any portable items (e.g., shielding, storage containers, etc.) used for unsealed radioactive material work must be surveyed and decontaminated to levels that are as low as reasonably achievable as described in the [Radiation Safety Manual](#). When the item will no longer be used for radioactive work, the item shall be evaluated by the owner to determine the potential for radioactive contamination. The evaluation should include contamination surveys and a review of the historical radioactive material work conducted by the item’s owner(s). If the evaluation concludes there is no contamination on the item, the “**Caution, Radioactive Materials**” labels may be removed.

All “**Caution, Radioactive Materials**” labels must be removed from items prior to sending the items to UW Surplus.

Contact [Radiation Safety](#) for guidance and assistance with decontaminating and evaluating items and equipment. Additional information is provided in [Radiation Safety Manual](#).

DEVICES CONTAINING SEALED SOURCES

Some laboratory equipment contains internal radioactive sources. The radioactive sources must be removed by Radiation Safety prior to disposal or transfer to UW Surplus. Examples are provided below.

Liquid scintillation counters (LSCs): LSCs contain an internal sealed source, usually Cs-137 or Ba-133, which must be removed and disposed of by Radiation Safety. LSCs also often have associated external unsealed liquid standards, usually H-3 and C-14, which must be disposed of by Radiation Safety.

Gas chromatographs: Gas chromatographs may contain an electron capture detector (ECD) with a Ni-63 electroplated source. The ECD may be removed by the PI if a procedure is provided by the manufacturer. However, the ECD must be transferred to Radiation Safety for disposal or shipment to the manufacturer.

Static eliminators: Static eliminators contain Po-210 electroplated onto an external or internal surface of the device. Static eliminators must be disposed of by Radiation Safety.

Contact [Radiation Safety](#) for guidance and assistance in disposing of any of these items or other questionable items that may contain radioactive material.

OTHER RADIOACTIVE MATERIALS (CONSUMER PRODUCTS)

Some consumer products may contain radioactive material requiring disposal by Radiation Safety. Examples are provided below.

Smoke detectors: Some smoke detectors contain americium 241 (Am-241) or other radioactive material which must be disposed of by Radiation Safety. Labeling on the smoke detector (usually on the back) will indicate the presence of Am-241 or other radioactive material.

Exit signs: some building exit signs contain H-3 and must be disposed of by Radiation Safety. If an exit sign is illuminated without electrical power, it may contain H-3. There should also be a label on the exit sign indicating it contains radioactive material.

Do not send these items to UW Surplus. Contact [Radiation Safety](#) for guidance and assistance in disposing of any of these items or other questionable items that may contain radioactive material.

X-RAY DEVICES

Regulations ([WAC 249-224-0090](#)) require that the UW maintain records of receipt, sales, transfer, or disposal of all X-ray producing devices. Radiation Safety must be notified and approve any sale, transfer, or disposal of any X-ray device. Under no circumstances should any X-ray device be abandoned, disposed as regular trash, or put out for open auction/public.

RETURNING AN X-RAY DEVICE TO THE MANUFACTURER

Unwanted X-ray devices may only be transferred to a commercial X-ray device assembler or vendor, or used as a trade-in on replacement equipment. Contact the manufacturer and ask if you can return the X-ray system for disposal, refurbishment, or recycling.

Notify Radiation Safety of such transfer and disposition to remove the X-ray device from your inventory.

HAZARDOUS MATERIALS

X-ray devices must be free of hazardous materials prior to pick up or delivery to UW Surplus. Review the manufacturer's X-ray device manual for a list of hazardous materials or call the manufacturer to check on any possible hazardous material components. Common hazardous materials present in X-ray devices include beryllium, polychlorinated biphenyls (PCBs), lead, and oil. Please contact [EH&S Environmental Programs](#) at 206.616.5835 for assistance and disposal instructions.

If the X-ray devices are oil-cooled, the oil must be drained prior to contacting UW Surplus.

- For **medical and dental** X-ray devices: Contact the [Clinical Engineering Department](#) at 206.598.4268 or [UW Scientific Instruments/Biomedical Electronics](#) at 206.543.5580 to set up an appointment for oil draining.

- For **research and laboratory** X-ray devices: Contact [EH&S Environmental Programs](#) at 206.616.5835 to discuss oil testing and to set up an appointment for oil draining.

STEPS TO PREPARE AN X-RAY DEVICE FOR SURPLUS

1. Ensure all hazardous materials have been removed.
2. Disable the device by removing the head carefully, so as not to break the X-ray tube. The tube is under a vacuum and, if broken, could splinter and cause injuries.
3. Cut the power cord or remove all means of activating the X-rays.
4. Remove all "Caution: X-ray" signs and postings including those on the X-ray device and the entrances to where X-ray device was installed.
5. Contact [Radiation Safety](#) for clearance of the X-ray device.
6. Submit a [Surplus request](#) for pickup or drop off.

LASERS

Regulation requires that the UW maintain records of receipt, sales, transfer, or disposal of all **Class 3B** and **Class 4** laser systems. Sales, transfer, or disposal of lasers requires certain precautionary measures be taken involving the notification of the potential hazards of the equipment and approval by the UW Laser Safety Officer (LSO). The LSO may be able to find a new home for your laser if the laser is still in good working condition. If not, consider disposing the laser system through the manufacturer or through UW Surplus.

Under no circumstances should a Class 3B or 4 lasers be abandoned, disposed of as regular trash, or made available for public use due to concerns over the misuse of the laser system. Please contact [Radiation Safety](#) for additional guidance or to initiate proper sales, transfer, or disposal of laser equipment.

RETURNING A LASER TO THE MANUFACTURER

Some manufacturers will accept old lasers for recycling value or as a service to users. Contact the manufacturer and ask if you can return the laser system for disposal, refurbishment, useable components, or recycling. Notify [Radiation Safety](#) of such transfer and disposition to remove the laser from your inventory.

STEPS TO PREPARE A LASER DEVICE FOR SURPLUS

1. Review the manufacturer's laser system manual for a list of hazardous materials or call the manufacturer to check on any possible hazardous material components.
2. If the laser system contains hazardous materials (e.g., dyes and solvents, batteries, mercury switches, oils, beryllium oxide (BeO), and other chemicals), contact [EH&S Environmental Programs](#) at 206.616.5835 for assistance and disposal instructions.
3. Submit a [Chemical Waste Collection Request](#) on the EH&S website for disposal of hazardous materials.
4. Disable the device by cutting off the power cord or by removing all means of activating the laser.

5. Remove the keys (if applicable) and destroy the laser (render inoperable).
6. Contact [Radiation Safety](#) for clearance of the laser device.
7. Submit a [Surplus request](#) for pickup or drop off.

Contact EH&S at 206.543.0463 or radsaf@uw.edu for more information.