



*For more information, refer to the Radiation Safety Manual, 2017 RSP-3 & Quick Step*



Every order, transfer or replacement **MUST** be PRE-APPROVED by University Radiation Safety

The image shows a yellow 'Radioisotope Inventory Form' with various fields for recording information such as date received, quantity, activity, and location. It includes a table for listing items and checkboxes for disposal methods.

## How do I know if my order/replacement order/transfer has been approved by Radiation Safety?

- You will receive a hardcopy yellow Radioisotope Inventory Form (“gold sheet”) in the mail.
- The radioactive material information required to place the order/transfer is entered into a centralized inventory database, Radiation Safety then approves the order/transfer and creates the “gold sheet” with a unique identifying serial number.
- Contact [radsafety@umanitoba.ca](mailto:radsafety@umanitoba.ca) if you receive a shipment and have not received the gold sheet. You must have a gold sheet for each stock vial or kit.

## What do I need to do to get PRE-APPROVAL by Radiation Safety?

The three most common ways to get pre-approval are described below – purchasing procedure, transfers to the University that are not arranged through Purchasing and transfers between University Permits. If you are unable to follow one of these procedures – contact Radiation Safety to make alternative arrangements.

### Purchasing procedure

- EPIC (the University’s eProcurement tool for ordering) requires training and an access request.
- Once access to EPIC is granted, create a requisition/order online by one of the following methods:
  - Catalog order, example Perkin Elmer
  - Non-catalog order: use the commodity code “Radioisotope Sources” with ID 12142207,

The instructions for placing radioisotope orders are located on the web at:

[http://umanitoba.ca/admin/vp\\_admin/risk\\_management/ehso/media/EPIC\\_Radioactive\\_Materials\\_Purchase.pdf](http://umanitoba.ca/admin/vp_admin/risk_management/ehso/media/EPIC_Radioactive_Materials_Purchase.pdf)

### Transfers to the University, Orders and Replacement Orders that are not arranged via Purchasing

- To get a Gold Sheet email [radsafety@umanitoba.ca](mailto:radsafety@umanitoba.ca) indicating the isotope & chemical form, activity, company, permit holder’s name & permit number for approval. If the LRS is submitting the email, the permit holder must be included (CC’d) in the email. Examples of institutions that transfer, or that orders are received from, include Winnipeg HSC Cyclotron, Oak Ridge National Lab, TRIUMF and natural uranium samples from mining companies.

### Transfers within the University or from the University to other Facilities

- If you already have a Gold Sheet for the item, please email [radsafety@umanitoba.ca](mailto:radsafety@umanitoba.ca) (cc the recipients) indicating the isotope, EHS serial number from the gold sheet and
  - If transferring within the University, indicate the recipient permit holder name & permit number. Once you receive an email to approve the transfer, the gold sheet and radioactive material may be transferred to the recipient permit holder.
  - If transferring to an outside facility, email to request Radiation Safety pre-approval and include the facilities’ name and the recipient’s name.

- The University Radiation Safety Officer (RSO) must contact the RSO at the other facility prior to the transfer.
- Then the gold sheet is returned to EHS and EHS must be involved with shipping the radioactive material to the other facility. Refer to the Radiation Safety Manual, 2017 RSP-3, section 6 and the Quick Step Guides for Inventory in the Radiation Safety Records Binders for a complete checklist of requirements.

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*Please study the next section carefully. You will be required to demonstrate receiving Class 7 Radioactive Materials package at the workshop to obtain a certificate.*

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## Transportation of Dangerous Goods Regulations

Radioactive material is potentially dangerous and its transportation is controlled by Federal regulations, therefore there are stringent reporting requirements.

- Immediately report any anomalies (contamination, leakage, shortage or wrong shipment) to the Permit Holder and/or LRS and to Radiation Safety.
- The RSO must make a preliminary verbal report to the Canadian Nuclear Safety Commission and Manitoba Department of Environment. The consignor or vendor, must be informed immediately as well. Radiation Safety will do the reporting (see shaded text box below for contact information).

At any point you have to **STOP & report**

Contact Radiation Safety IMMEDIATELY (204) 474-6633

After normal business hours Radiation Safety may be accessed by contacting Security Services (204) 474-9341

**STOP and report if:**

- Shipment not received when expected
- Did not receive what you ordered or not your shipment
- Removable contamination above 2x background is detected
- Any sign of leakage, damage or tampering to the exterior or interior packaging

## How do I receive (and open) a package of Radioactive Material?

### Receiving Radioactive Shipments

- Packages of Radioactive Material shall never be left insecure.



- All shipments of radioactive materials labelled with one of the Transport of Dangerous Goods (TDG) symbols are only to be received and opened by persons that have been certified (trained) in receiving Class 7 Radioactive Materials.
- Non-certified personnel may only receive packages of radioactive materials that are shipped and labelled as “Excepted Packages” (no TDG symbols).

**RADIOACTIVE MATERIAL,  
EXCEPTED PACKAGE –  
LIMITED QUANTITY OF MATERIAL  
UN 2911**

1. Check the package to confirm it is addressed to you. If it is not yours, **STOP & report**
2. If the package is yours, before you sign for the package as required by the courier, take off any gloves you may be wearing.
3. Upon receipt, unopened packages of radioactive material should be promptly delivered to the recipient. Place package on a cart to increase the distance between people and the package in order to minimize radiation exposure. (Remember - *Never leave the package insecure.*)

### Opening Radioactive Shipments

- Assume the package may be contaminated until you have proven otherwise.
  - Unpack urgently as the package contains a dangerous good and may have been damaged during transport. You should also ensure you received what you ordered and once opened, the item must be secured in the storage location.
1. Put on a lab coat and disposable gloves to handle the package. Place package behind appropriate shielding. If receiving potentially volatile material (unbound iodine or S-35 labelled proteins), place the package in a fume hood behind appropriate shielding.
  2. Verify the packing slip on the exterior corresponds with your order. If not your order **STOP & report**.
  3. Check the exterior and then the interior of the package for possible damage or visible leakage. If the package is damaged or leakage is obvious **STOP & report**.
    - a. To limit the spread of any contamination, isolate the package.
    - b. Remove your gloves, wash your hands and monitor your hands and clothing.
    - c. Follow the directions in the shaded box above.
  4. If no visible leakage or damage,
    - a. Perform wipe testing on the packaging and remove the *primary container* and wipe test. Take care when removing the *inner vial* to avoid unnecessary direct contact with unshielded vials. Wipe test the *inner vial* and verify vial contains material. If the vial is empty, **STOP & report**.
    - b. Return the *inner vial* to the *primary container*. Place the *primary container* in a bag in the secured storage location and keep packaging isolated until the results of the wipe test verify no removable contamination.



In this picture, the blue container is the *primary container* and the *inner vial* is clear with a red lid.

#### Interpreting the wipe test results (Is there removable contamination?)

*Refer to the University Decontamination Levels in RSP-3, section 10*

For P-32, or if you have an 'approved alternate method of detection' for a specific isotope that is listed the Internal Radioisotope permit, use direct monitoring of the wipes. The contamination meter must have a verification label for the isotope. For all other isotopes, use indirect monitoring on the wipes.

If there is an approved alternate method of detection for indirect monitoring, it will be listed on the permit and the procedure will be in the records binder.

If there is no detection of removable contamination above twice background you are good to proceed.

If contamination is detected, **STOP & report** using the contact information in the shaded box above.

Secure and label all packaging as contaminated and, if appropriate, label all locations in contact with the packaging.

EHS will verify contamination levels. The packaging will be disposed as radioactive waste in accordance with radioactive waste procedures.

5. If no removable contamination is detected, verify the radioisotope, the activity, and other details on the primary container with the information on the packing slip. If there is a discrepancy in the information or activity of more than 10% **STOP & report**.
6. Write the serial number from the gold sheet on the primary container. The serial number is located in the upper part of the radioisotope inventory form.

- a. Record the pertinent information on your Radioisotope Inventory Form (activity received, assay date, radioactive concentration, total volume and the lot number) and the results of the wipe test from the vial and background.
- b. Attach the shipping document (found on the outside of the package, sample on left) to the radioisotope inventory form. The shipping document contains required information related to the dangerous good. TDG regulations require all copies be kept (effective November 2012).
- c. If the packaging is free of contamination, remove or deface all radiation warning symbols and/or wording before discarding into the regular garbage

## Inventory Control



After receiving, what else is recorded in the Radioisotope Inventory Form (gold sheet)?

### Record use

Use your Radioisotope Inventory Form to indicate any volume you use from the vial in the usage section. The required information for each use

- Full date
- Volume or activity used
- Volume or activity remaining
- Procedure
- Name of the user

### When the vial or kit is no longer needed

- Return the vial or kit to EHS with the original Radioisotope Inventory form (gold sheet) and attached shipping document. The centralized inventory will be updated.
- Keep a white copy of the Radioisotope Inventory Form in the records binder.

## How does the University keep the centralized inventory up to date?

There is a process in place for Annual Reconciliation of the Radioisotope Inventory.

**Why?** To verify the radioisotope inventory registered to each permit as of December 31.

### How?

- Early in January, EHS mails to the Permit Holder or LRS (if applicable) a RADIOISOTOPE INVENTORY RECONCILIATION REPORT (a database printout) of the Permit Holder's registered inventory.
- The presence of stock vials must be physically verified and partial usage during the year recorded on the printout of the inventory.
- The RADIOISOTOPE INVENTORY RECONCILIATION REPORT sheet(s) must sent back to EHS and any discrepancies must be reported on the sheet.
- Storage areas are monitored for contamination at this time, results are recorded on the page provided and placed in the Radiation Safety Records binder.