

**Isotope Use and Wipe Tests**  
**UNOLS East Coast Van Pool**  
**Isotope Lab #2**  
**June 2009**

Every vessel has its own policies and procedures with regard to isotope use on board. These are normally linked to the institution or agency, which owns and/or operates the vessel. Generally speaking, most vessels require that all isotope use be conducted inside a portable laboratory to ensure the labs in the vessel itself stay as “clean” as possible. For personnel and samples coming and going from the lab (for example to incubators on deck), the policies and procedure may vary widely.

**The Chief Scientist and those using the Isotope lab should check with the technical support staff or Master to ensure that ship policies and procedures are adhered to. They should also confirm who acts as the vessel’s Radiation Safety Officer (RSO) during the cruise.**

The Isotope lab comes with the necessary supplies to help ensure that the most stringent of vessel requirements can be met. These items include “sticky” mats for the deck and shoe covering “booties” as described below. If these items are not required by the vessel, please keep all unused supplies in the lab so that they can be used by other researchers on future cruises.

**None of the requirements below are intended to supersede the isotope use requirements of the vessel.**

**Trained Personnel:** Access to the Isotope Lab during cruises is strictly limited to only those who are properly trained in handling isotopes and who are prepared to follow all of the vessel’s isotope use procedures and policies.

**Booties and Mats:** If required by the vessel, members of the science party should use booties while in the lab, which are then left in the lab when they go out - or change shoes when exiting the lab. The UECVP provides booties and disposable “sticky mats” inside the doors of the lab. Outside shoes should be placed on the mat when entering and prior to leaving the lab.

**Other Personal Protective Items:** When working in the Isotope Lab, protective measures (lab coats and gloves) should be used and also left within the lab. Coat hooks and a small stool to assist in changing shoes and lab coats is available adjacent to the personnel door when entering and leaving. Although gloves should be worn while working with isotopes in the lab (and left in the lab upon exiting), scientists should wash their hands thoroughly with soap in the dry lab or wet lab sink to further assure preventing tracking trace amounts of isotopes to other areas of the ship.

**Arrival of the Lab:** Before leaving the UECVP, the isotope lab will be inspected to make sure it is clean and ready for science. This will include checking the refrigerator, all counters, draws,

fume hood, sink, floors and trash receptacles. A standard wipe test will be performed (using the Wipe Test Plan included) and the results included in the manual.

**Daily Wipe Tests:** A daily wipe test must be performed by the Science party using the enclosed Wipe Test Plan. A 20 ml vial should be used for each zone. All the necessary supplies are included in the lab if the science party did not bring enough aboard.

The results of the daily wipe tests should be saved and returned with the lab.

All un-used supplies should be returned with the lab so they can be used by the next science party.

**Waste:** Radioactive waste materials (both liquid waste and solid waste) generated in the Isotope Lab must be kept there until the end of the cruise when it can be carefully removed, assuring first that all surfaces are clean of potential trace contamination.

**Departure of Science Party:** At the end of a cruise and prior to leaving the ship, the Isotope Lab must be carefully cleaned and a wipe test conducted. The results must show that there is no contamination of benches, sink, floor, or refrigerator and freezers. **All areas must be below 100 DPM.** Isotope cleaning supplies are provided. After successful cleaning and certification with an additional wipe test, the lab will be considered “decontaminated”.

All radioactive materials, including any materials brought onboard, all scientific samples, and any waste generated during the use of the lab, must be removed from the lab before shipping.

### **REMEMBER**

**REMOVE EVERYTHING FROM LSC BEFORE SHIPPING – OTHERWISE CARRIAGE MIGHT BE DAMAGED DURING TRANSIT !**

**SWAB Tests:** The University of Miami Tritium Laboratory will conduct periodic “SWAB tests” of the lab. Unless otherwise requested by the user of the lab, these will be conducted in conjunction with other routine testing done for the University of Delaware – and at least once per calendar year. The last SWAB test results will be included in the manual.