

OREGON HEALTH & SCIENCE UNIVERSITY
RADIATION SAFETY
OPERATING PROCEDURE
1804
ABSORBING AQUEOUS RADIOACTIVE LIQUIDS

I. PURPOSE:

To safely and effectively absorb aqueous radioactive waste for subsequent disposal.

II. DISCUSSION:

If no other method of aqueous waste disposal is available or desired, wastes may be absorbed using the following method.

III. EQUIPMENT:

- A. Wide mouth, plastic, 4 liter container with Superfine absorbent (**must be provided by RSO**)
- B. Absorbent paper
- C. Protective gloves/eyewear
- D. Lab coat
- E. pH paper
- F. Ring badge (if required)
- G. Survey instrument

IV. PRECAUTIONS:

- A. Since the absorbent contains silica, which may present an inhalation hazard, and also to control possible radioactive contamination, the process should be carried out in an operating fume hood.
- B. **The maximum volume of liquid allowed per 4-liter container is 2000 ml.**
- C. Determine the volume and the amount of radioactivity prior to absorbing the liquid.
- D. Make sure there is no removable radioactivity on the outside of the container prior to pick-up by the Radiation Safety Office.
- E. Do not absorb more than one type of radionuclide per container.

V. PROCEDURE

- A. Preparation
 - 1. Lay absorbent paper inside the fume hood. Place the container with Superfine absorbent on the paper. Label the container with "Caution, Radioactive Material" tape or sticker.
 - 2. Make sure the protective equipment is being used (shielding, lab coat, gloves,

- eyewear). Ensure that ring badge is worn on appropriate finger (if required).
3. Turn on the survey instrument.

B. Absorbing the Waste

1. Determine the pH of the waste. It should be between 5.0 and 9.0. If not, adjust it.
2. Remember, you are limited to a total of 2000 ml per container. Unscrew the lid and SLOWLY pour the liquid into the container. If you pour too quickly, splashing may occur. After you are done, survey your hands and screw the lid on the container.
3. Record the radionuclide, activity, volume disposed and the date on an appropriate log sheet.
4. If you have not reached the maximum amount of 2000 ml in the container, repeat steps B.1 through B.2 for additional liquid waste disposals of the same radionuclide.
5. For additional waste after the first container is full, start again at step B.1. with a new container of Superfine absorbent.

C. Waste disposal

1. Call ext. 4-2578 for radioactive waste pick-up.