

**Veterans
Administration**

May 8, 1985

In Reply Refer To:

License Management Branch
U.S. Nuclear Regulatory Commission
Region V
1450 Maria Lane, Suite 210
Walnut Creek, CA 94596

THRU: Director, Nuclear Medicine Service (115)
Veterans Administration Central Office
810 Vermont Avenue, N.W.
Washington, D.C. 20420

SUBJ: Clarification to Proposed Amendment #6 to Materials
License Number 46-19584-01

1. Handling of significant quantities of ^{125}I will be restricted to an exhaust hood dedicated to this purpose. Solutions of $^{125}\text{I}[\text{NaI}]$ will be purchased in packages of 5 mCi. Vials will be opened only in this hood for the short period of time necessary to transfer an aliquot to a reaction container for peptide iodination. The container will be stoppered at all times during the procedure except when additions are made or liquid is removed. For most iodination procedures unreacted iodide will be adsorbed onto an ion-exchange resin, a non-volatile agent. Solutions of iodinated peptides, containing 0.2 to 0.5 mCi will only be opened in the hood for the short period of time necessary to transfer an aliquot for radioimmunoassay purposes.

2. Iodinations will be performed by several people in the laboratory. That is, no one individual will perform all iodinations; the responsibility will be divided to minimize exposure. For example, currently 4 individuals are designated to perform iodinations, with the procedure performed approximately once each month.

3. All individuals in the research laboratories will be surveyed once each month by sodium iodide crystal monitoring of the thyroid. This includes personnel who do not come into close contact with radioactive iodine. Individuals who perform iodinations, i.e. who are exposed to 5 mCi or less of NaI, will be subjected to a thyroid scan 6-72 hr after performing the procedure.

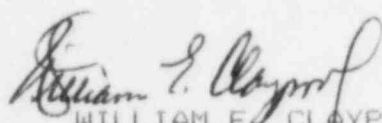
4. When the thyroid burden of an individual exceeds 10 nCi, certain actions will be initiated in order to

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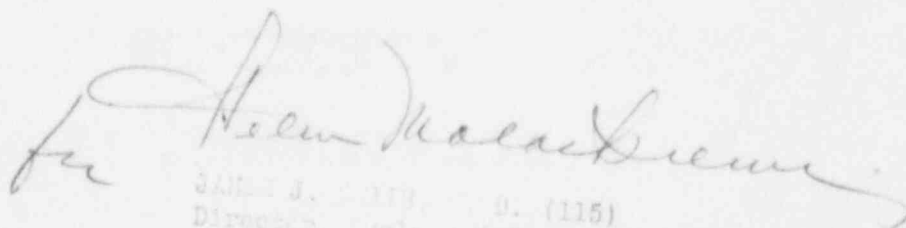
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ascertain the cause of exposure and the potential for continued/increased exposure:

- a. an investigation of the operations involved including wipe tests of all areas designated for use of radioiodine, wipe tests of all areas used by the affected individual, and thyroid scans of all personnel. b. the Radiation Safety Officer will be notified.
 - b. correction of the source of exposure.
 - c. restriction of affected worker(s) from further exposure to radioiodine until thyroid scan indicates readings of approximately 2 nCi. Thyroid scans will be conducted at regular intervals to ascertain whether exposure is decreasing.
 - d. notification of the NRC if exposure to any individual exceeds 120 nCi.
 - e. if the thyroid burden exceeds 500 nCi for an individual, appropriate medical personnel will be consulted for recommended therapeutic actions.
5. With respect to our request for 15 mCi of phosphorus-32, we are including a copy of the instructions for handling the isotope.


WILLIAM E. CLAYPOOL
Medical Center Director

Attachments 1


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5/17/85

Guidelines for Use of Phosphorus-32

1. Never work with phosphorus-32 in quantities greater than 1 uCi unless another individual is present in the laboratory.
2. Notify all personnel in the laboratory that you are working with phosphorus-32.
3. Perform a dry run prior to the performance of an unfamiliar procedure. If there is any doubt about the manner in which the procedure is to be performed, ask the advice of the radiation protection officer.
4. Wear both a film badge and a finger dosimeter at all times when working with phosphorus-32. Monitor all procedures performed with a survey meter. Submit urine samples within 12 hrs after handling the isotope.
5. Use remote handling tools whenever possible.
6. For an extended series of experiments utilize, insofar as possible, dedicated equipment for handling of the isotope solutions: microliter pipets, microcentrifuges, and any other non-disposable items which will be used with significant quantities of phosphorus-32.
7. Solutions of the isotope should always be stored and handled behind a sheet of clear plastic.
8. Always wear safety glasses, gloves, and labcoat when working with the isotope. Whenever possible, transfer solutions of the isotope in a fume hood with the glass door pulled down.
9. Perform a radiation survey and wipe tests of all areas in

which the isotope has been used after each use.

10. Isolate all waste from the procedure.

11. Actions to be taken in the event of a spill:

- For less than 1 mCi clean down the area using an appropriate decontaminant. Notify the Radiation Safety Officer.

- For greater than 1 mCi isolate the area, call the Radiation Safety Officer and clean the contaminated area as directed.

- If you believe the isotope has spilled on your clothing, remove the clothing.

- If skin contamination has been detected, promptly decontaminate with soft soap and plenty of water. If this is not successful, a suitable solvent may be selected if extreme caution is exercised not to injure the skin. To determine if skin contamination has resulted in a significant intake of activity, a urine sample should be submitted for analysis one hour later.

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