

Bioassay Program - Iodine-131

RESPONSIBILITY

The authorized user and/or RSO is responsible for insuring that this program is conducted as required in accordance with the NRC Materials License and 10 CFR 20.1204 and 20.1502. All data must be forwarded to the attention of the RSO for review.

TESTING CRITERIA

Any individual who helped prepare or administer a dosage of Iodine-131 for each patient that receives a radiopharmaceutical therapy and that was hospitalized for compliance with 10 CFR Part 35.75 is required to have a bioassay performed.

Involvement and /or usage is defined as direct administration of radioactive iodine, manipulation of iodine or iodinated compounds such that quantities equal to or greater than 33 mCi are opened or handled such that the seal (if any) is broken or violated which would allow iodine vapor to escape.

Simple handling (i.e. logging of package receipt) or assay of sealed containers does not constitute a hazard level which would require bioassay.

ACTION LEVELS

If measured thyroid burdens are equal to or greater than the following activity levels:

Evaluation Level	Iodine-131
(0.02)(ALI)	1.0 μ Ci

The following action shall be initiated:

1. Report levels to the RSO immediately.
2. Document and investigate the cause and potential for further exposure.
3. If investigation reveals potential exists restrict the individual(s) activities until the cause is corrected.
4. Implement corrective action to prevent or lower the exposure potential.
5. Repeat thyroid bioassay within 2 weeks.

Investigation Level	Iodine-131
(0.1)(ALI)	5 μ Ci

1. Repeat 1 - 5 above.
2. Medical consultation for therapeutic procedures should be sought within 2-3 hours of exposure for iodine if possible.
3. Repeat measurements weekly until bioassay is below Action Level I limit.

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DATA COLLECTION

All data must be obtained not earlier than 24 hours and not greater than 72 hours post exposure.

Instrumentation suitable for data collection will fit the following criteria:

Detector: Scintillation Uptake Probe - Iodine-131 (Thyroid) Efficiency documented.

Standard: Radionuclide specific for efficiency calculation