**Radionuclide Safety Reference Sheet**  
**Iodine 125**

**Energy:**  
Gamma: 35.5 keV 7% abundance  
X-Ray: 27 keV 113% abundance  
Beta: none emitted  

**Shielding:** 1/32" to 1/16" lead foil

**Critical Organ:** thyroid

**Exposure Routes:** inhalation, ingestion, skin absorption

**Dosimetry:** none required

**Bioassay:** thyroid and/or urine

**Detection & Measurement**  
Na/I Scintillation Meter: 13% eff.  
GM Pancake: ~0.5% efficiency  
Liquid Scintillation Counting: 50% eff.

**Special Precautions:**  
- **125I** presents internal and external exposure risks;  
- Assume potential volatility with radioiodine labeled compounds—work with **125I** in a chemical fume hood;  
- Store at room temperature—avoid freezing  
- Maintain neutral pH  
- Use NaI scintillation for direct survey;  
- Analyze smears by LSC for removable contamination;  
- Urine bioassay must be conducted within 24 hours following suspect intake;  
- Report all spills to the RSO.

**Personal Protective Equipment**

**Disposal:** Decay in Storage

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1. Dosimetry and bioassay are not required for <1mCi monthly **125I** use or use of <0.1 mCi volatile **125I**. Dosimetry is not required for work with RIA kits.
2. Urine or thyroid bioassay may be required after any accident/incident where intake is suspected.