



## 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<sup>1</sup>: none required

Bioassay<sup>2</sup>: thyroid and/or urine

## Detection &amp; Measurement

Na/I Scintillation Meter: 13% eff.

GM Pancake: ~0.5% efficiency

Liquid Scintillation Counting: 50% eff.

## Half Life:

Physical: 60.1 days

Biological: 120-138 days (unbound)

Effective: 42 days

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1/2

## Special Precautions:

- ⚠️ <sup>125</sup>I presents internal and external exposure risks;
- ⚠️ Assume potential volatility with radioiodine labeled compounds—work with <sup>125</sup>I 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

1. Dosimetry and bioassay are not required for <1mCi monthly <sup>125</sup>I use or use of <0.1 mCi volatile <sup>125</sup>I. 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.