**Radiation:**  
**Decay mode:** Electron Capture

**Major Gammas:**

<table>
<thead>
<tr>
<th>E (MeV)</th>
<th># per 100 dis</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.081</td>
<td>34.06</td>
</tr>
<tr>
<td>0.303</td>
<td>18.33</td>
</tr>
<tr>
<td>0.356</td>
<td>62.05</td>
</tr>
</tbody>
</table>

Max. Beta Range in air N/A cm or N/A ft  
Max. Beta Range in water N/A cm  
Avg. gamma E = 0.266 MeV

**Half – life:** 10.51 years

**Gamma constant:** 2.4 mR/hr per mCi at 30 cm

**Radiological data:**

- **Min. Ingestion ALI:** 2000 μCi equals 5rem TEDE (Whole Body)
- **Min. Inhalation ALI:** 700 μCi equals 5rem TEDE (Whole Body)

**Doses:**

- **Skin Dose:** Reported for 1 μCi over 10 cm² of skin  
  32.9 mrad/hr (gamma dose)
- **Point Source:** 0 mrad/hr (beta dose)
- **Disk Source:** 0 mrad/hr (beta dose)

**Shielding data:**

- **Max. range for beta:** Plastic = 0.07 cm  
  Aluminum = 0.03 cm
- **Tenth Value Thickness for average gamma:** Concrete = cm  
  Lead = cm

**Detection Information:**

Usable Detectors listed with estimated efficiencies  
(Use efficiencies listed on instrument when available)

- Ludlum 3 with pancake probe at 1 cm: %  
  Liq. Scint. Counter: %
- Ludlum 3 with NaI probe near surface: %  
  Gamma Counter: %

**Action Quantities:**

- Bench top quantity must be less than 7000 μCi
- Containers require labeling when greater than 100 μCi
- Rooms require posting when there is greater than 1000 μCi
- Contamination lasting more than 24 hrs require NRC notification when greater than 3500 μCi

Updated – 11/13/2007