# RADIONUCLIDE DATA SHEET
# Palladium

**Pd-103** 46 protons 57 neutrons

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

**Major Gammas:**

| E (MeV) | # per 100 dis |
|---|---|
| 0.040 | 0.068 |
| 0.357 | 0.022 |
| 0.497 | 0.004 |

Max. Beta Range in air N/A cm or N/A ft
Max. Beta Range in water N/A cm

**Avg. gamma E** = 0.134 MeV

***Half – life:*** 16.991 days

***Gamma constant:*** 0.163E-3 mR/hr per mCi at 30 cm

***Radiological data:***

**Min. Ingestion ALI:** 7000μCi equals rem TEDE (Whole Body)
6000μCi equals rem CEDE (LLI Wall)

**Min. Inhalation ALI:** 4000μCi equals rem TEDE (Whole Body)

***Doses:***

**Skin Dose:** Reported for 1 μCi over 10 $cm^2$ of skin
20.7 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 = N/A cm
Aluminum = N/A 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:** %
**Ludlum 3 with NaI probe near surface:** %
**Liq. Scint. Counter:** %
**Gamma Counter:** %

***Action Quantities:***

| | |
|---|---|
| **Bench top quantity must be less than** | 40000 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** | 20000 μCi |