

RADIONUCLIDE DATA SHEET

[**PALLADIUM**]

Pd-103

46 protons

57 neutrons

Half Life: 16.991 days

Radiation: Decay Mode: Electron Capture

Gamma Constant: 0.163 E -3 mR/hr per 1 mCi at 30 cm

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

Max. Beta Range in Water : N/A cm

Average gamma E = 0.134 MeV

Intake Data (annual):

Minimum Ingestion: 7000 µCi equals 5 rem TEDE (WHOLE BODY)

6000 µCi equals 50 rem CEDE (LLI wall)

Minimum Inhalation: 4000 µCi equals 5 rem TEDE (WHOLE BODY)

Doses:

Skin Dose: Reported for 1 µCi over 10 cm² of skin
20.7 mrad/hr (gamma dose)

Point Source: 0 mrad/hr (beta dose)

Disk Source: 0 mrad/hr (beta dose)

Shielding Information:

Maximum Range For Beta	Plastic	N/A cm
	Aluminum	N/A cm
Tenth Value Thickness For Average Gamma:	Concrete	0 cm
	Lead	0 cm

Detection information: Usable Detectors listed with estimate efficiencies

Ludlum 3 w/ pancake probe at 1 cm	%	Liq. Scint. Counter	%
Ludlum 3 w/ NaI probe near surface	%	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 At	20000 µCi