RADIONUCLIDE DATA SHEET
Neptunium

Np-237 93 protons 144 neutrons

Radiation: **Decay mode:** Alpha

Major Alpha:

E (MeV)	# per 100 dis
4.639	6.18
4.803	1.56
4.871	0.925

Major Gammas:

E (MeV)	# per 100 dis
0.029	15.0
0.086	12.4
0.094	0.6

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

Avg. gamma E = 0.056 MeV

Half – life: 2144000 years

Gamma constant: 0.026 mR/hr per mCi at 30 cm

Radiological data:

Min. Ingestion ALI: 10μCi equals 5rem TEDE (Whole Body)
0.5μCi equals 50rem CEDE (Bone surf)

Min. Inhalation ALI: 0.01μCi equals rem TEDE (Whole Body)
0.004μCi equals rem CEDE (Bone surf)

Doses:

Skin Dose: Reported for 1 μCi over 10 cm^2 of skin
9.23 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	0.04 μCi
Containers require labeling when greater than	0.001 μCi
Rooms require posting when there is greater than	0.01 μCi
Contamination lasting more than 24 hrs require NRC notification when greater than	0.02 μCi