RADIONUCLIDE DATA SHEET
Cadmium

Cd-109 48 protons 61 neutrons

Radiation: **Decay mode:** Electron Capture

Major Gammas:

E (MeV)	# per 100 dis
0.088	3.70
0.0219	28.9
0.0221	54.5

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

Avg. gamma E = 0.09 MeV

Half – life: 462.6 days

Gamma constant: 0.198 mR/hr per mCi at 30 cm

Radiological data:

Min. Ingestion ALI: 400μCi equals 5rem TEDE (Whole Body)
300μCi equals 50rem CEDE (Kidneys)

Min. Inhalation ALI: 50μCi equals 5rem TEDE (Whole Body)
40μCi equals 50rem CEDE (Kidneys)

Doses:

Skin Dose: Reported for 1 μCi over 10 cm^2 of skin
32.1 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	400 μCi
Containers require labeling when greater than	1 μCi
Rooms require posting when there is greater than	10 μCi
Contamination lasting more than 24 hrs require NRC notification when greater than	200 μCi