RADIONUCLIDE DATA SHEET
Gadolinium

Gd-153 64 protons 89 neutrons

Radiation: **Decay mode:** Electron Capture

Major Gammas:

E (MeV)	# per 100 dis
0.070	8.34
0.097	100
0.103	72.8

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

Avg. gamma E = 0.098 MeV

Half – life: 240.4 days

Gamma constant: 0.582 mR/hr per mCi at 30 cm

Radiological data:

Min. Ingestion ALI: 5000μCi equals 5rem TEDE (Whole Body)

Min. Inhalation ALI: 200μCi equals 5rem TEDE (Whole Body)
100μCi equals 50rem CEDE (Bone surf)

Doses:

Skin Dose: Reported for 1 μCi over 10 cm^2 of skin
20.2 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	1000 μCi
Containers require labeling when greater than	10 μCi
Rooms require posting when there is greater than	100 μCi
Contamination lasting more than 24 hrs require NRC notification when greater than	500 μCi