RADIONUCLIDE DATA SHEET [GADOLINIUM]

Gd-153 — 64 protons — 89 neutrons

Half Life: 240.4 days
Radiation: Decay Mode: Electron Capture
Gamma Constant: 0.582 mR/hr per 1 mCi at 30 cm

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
Max. Beta Range in Water : N/A cm

Average gamma E = 0.098 MeV

Intake Data (annual):

Minimum Ingestion: 5000 µCi equals 5 rem TEDE (WHOLE BODY)
Minimum Inhalation: 200 µCi equals 5 rem TEDE (WHOLE BODY)
100 µCi equals 50 rem CEDE (Bone surface)

Doses:

Skin Dose: Reported for 1 µCi over 10 cm² of skin
20.2 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	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 At	500 µCi