

RADIONUCLIDE DATA SHEET

[RADIUM]

Ra-226

88 protons

138 neutrons

Half Life: 1600 years

Radiation: Decay Mode: Alpha

Gamma Constant: 9.17 mR/hr per 1 mCi at 30 cm

Major Alpha:

E(MeV)	# per 100 dis
4.784	94.45
4.601	10.4
4.340	0.0065

Max. Beta Range in Air : N/A cm

Max. Beta Range in Water : N/A cm

Major Gammas:

E(MeV)	# per 100 Dis
0.0186	3.59
0.262	0.005
0.601	0.00049

Average gamma E = 0.19 MeV

Intake Data (annual):

Minimum Ingestion: 5 μ Ci equals 5 rem TEDE (WHOLE BODY)

2 μ Ci equals 50 rem CEDE (Bone Surf)

Minimum Inhalation: 0.6 μ Ci equals 5 rem TEDE (WHOLE BODY)

Doses:

Skin Dose: Reported for 1 μ Ci over 10 cm² of skin

0.217 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	6 μ Ci
Containers Require Labeling When Greater Than	0.1 μ Ci
Rooms Require Posting When There Is Greater Than	1 μ Ci
Contamination Lasting More than 24 hrs Require NRC Notification At	3 μ Ci