

RADIONUCLIDE DATA SHEET

[STRONTIUM]

Sr-90

38 protons

52 neutrons

Half Life: 29.1 years

Radiation: Decay Mode: Beta

Gamma Constant: 0 mR/hr per 1 mCi at 30 cm

Major Betas:

Max E(MeV)	Avg E (MeV)	# per 100 dis
0.546	0.196	100
2.284	0.935	100

Max. Beta Range in Air : 1062 cm

Max. Beta Range in Water : 1.1 cm

Average gamma E = 0 MeV

Intake Data (annual):

Minimum Ingestion: 40 μ Ci equals 5 rem TEDE (WHOLE BODY)

30 μ Ci equals 50 rem CEDE (Bone surface)

Minimum Inhalation: 4 μ Ci equals 5 rem TEDE (WHOLE BODY)

Doses:

Skin Dose: Reported for 1 μ Ci over 10 cm² of skin
0 mrad/hr (gamma dose)

Point Source: 547 mrad/hr (beta dose)

Disk Source: 548 mrad/hr (beta dose)

Shielding Information:

Maximum Range For Beta	Plastic	1.1 cm
	Aluminum	0.52 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	13%	Liq. Scint. Counter	90%
Ludlum 3 w/ NaI probe near surface	<1%	Gamma Counter	5%

Action Quantities:

Bench Top Quantity Must Be Less Than	40 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	20 μ Ci