

RADIONUCLIDE DATA SHEET

[**RUBIDIUM**]

Rb-86

37 protons

49 neutrons

Half Life: 18.65 days

Radiation: Decay Mode: Beta

Gamma Constant: 0.6 mR/hr per 1 mCi at 30 cm

Major Betas:

Max E(MeV)	Avg E (MeV)	# per 100 dis
0.698	0.233	9
1.774	0.709	91

Major Gammas:

E(MeV)	# per 100 Dis
1.077	9

Max. Beta Range in Air : 790 cm

Max. Beta Range in Water : 0.86 cm

Average gamma E = 1.080 MeV

Intake Data (annual):

Minimum Ingestion: 500 μ Ci equals 5 rem TEDE (WHOLE BODY)

Minimum Inhalation: 800 μ Ci equals 5 rem TEDE (WHOLE BODY)

Doses:

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

1.63 mrad/hr (gamma dose)

Point Source: 644 mrad/hr (beta dose)

Disk Source: 645 mrad/hr (beta dose)

Shielding Information:

Maximum Range For Beta	Plastic	0.86 cm
	Aluminum	0.4 cm
Tenth Value Thickness For Average Gamma:	Concrete	16 cm
	Lead	3 cm

Detection information: Usable Detectors listed with estimate efficiencies

Ludlum 3 w/ pancake probe at 1 cm	13%	Liq. Scint. Counter	85%
Ludlum 3 w/ NaI probe near surface	<1%	Gamma Counter	2%

Action Quantities:

Bench Top Quantity Must Be Less Than	5000 μ Ci
Containers Require Labeling When Greater Than	100 μ Ci
Rooms Require Posting When There Is Greater Than	1000 μ Ci
Contamination Lasting More than 24 hrs Require NRC Notification At	2500 μ Ci