

# 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  $\mu$ Ci equals 5 rem TEDE (WHOLE BODY)

Minimum Inhalation: 800  $\mu$ Ci equals 5 rem TEDE (WHOLE BODY)

**Doses:**

**Skin Dose:** Reported for 1  $\mu$ Ci over 10 cm<sup>2</sup> 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 $\mu$ Ci
Containers Require Labeling When Greater Than	100 $\mu$ Ci
Rooms Require Posting When There Is Greater Than	1000 $\mu$ Ci
Contamination Lasting More than 24 hrs Require NRC Notification At	2500 $\mu$ Ci