

# RADIONUCLIDE DATA SHEET

[XENON]

Xe-133

54 protons

79 neutrons

**Half Life:** 5.243 days

**Radiation:** Decay Mode: Beta

**Gamma Constant:** 0.111 mR/hr per 1 mCi at 30 cm

**Major Betas:**

Max E(MeV)	Avg E (MeV)	# per 100 dis
0.346	0.1	99
0.267	0.075	0.81
0.044	0.011	0.0076

Max. Beta Range in Air : 74.74 cm

Max. Beta Range in Water : 0.1 cm

**Major Gammas:**

E(MeV)	# per 100 Dis
0.080	0.27
0.081	38
0.161	0.066

Average gamma E = 0.081 MeV

**Intake Data (annual):**

Minimum Ingestion: None

Minimum Inhalation: None

**Doses:**

**Skin Dose:** Reported for 1  $\mu$ Ci over 10 cm<sup>2</sup> of skin  
9.72 mrad/hr (gamma dose)

Point Source: 391 mrad/hr (beta dose)

Disk Source: 390 mrad/hr (beta dose)

**Shielding Information:**

Maximum Range For Beta	Plastic	0.08 cm
	Aluminum	0.04 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	N/A $\mu$ Ci
Containers Require Labeling When Greater Than	1000 $\mu$ Ci
Rooms Require Posting When There Is Greater Than	10000 $\mu$ Ci
Contamination Lasting More than 24 hrs Require NRC Notification At	N/A $\mu$ Ci