

# RADIONUCLIDE DATA SHEET

[CESIUM]

Cs-134

55 protons

79 neutrons

**Half Life:** 2.0648 years

**Radiation:** Decay Mode: Beta

**Gamma Constant:** 9.67 mR/hr per 1 mCi at 30 cm

**Major Betas:**

Max E(MeV)	Avg E (MeV)	# per 100 dis
0.658	0.210	70.23
0.415	0.123	2.506
0.089	0.023	27.28

Max. Beta Range in Air : 184.17 cm

Max. Beta Range in Water : 0.24 cm

**Major Gammas:**

E(MeV)	# per 100 Dis
0.569	15.38
0.796	85.53
0.802	8.69

Average gamma E = 0.764 MeV

**Intake Data (annual):**

Minimum Ingestion: 70  $\mu$ Ci equals 5 rem TEDE (WHOLE BODY)

Minimum Inhalation: 100  $\mu$ Ci equals 5 rem TEDE (WHOLE BODY)

**Doses:**

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

Point Source: 396 mrad/hr (beta dose)

Disk Source: 396 mrad/hr (beta dose)

**Shielding Information:**

Maximum Range For Beta	Plastic	0.2 cm
	Aluminum	0.09 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	1000 $\mu$ Ci
Containers Require Labeling When Greater Than	10 $\mu$ Ci
Rooms Require Posting When There Is Greater Than	100 $\mu$ Ci
Contamination Lasting More than 24 hrs Require NRC Notification At	500 $\mu$ Ci