RADIONUCLIDE DATA SHEET
Barium

Ba-133 56 protons 77 neutrons

Radiation: **Decay mode:** Electron Capture

Major Gammas:

E (MeV)	# per 100 dis
0.081	34.06
0.303	18.33
0.356	62.05

Max. Beta Range in air N/A cm or N/A ft
Max. Beta Range in water N/A cm

Avg. gamma E = 0.266 MeV

Half – life: 10.51 years

Gamma constant: 2.4 mR/hr per mCi at 30 cm

Radiological data:

Min. Ingestion ALI: 2000μCi equals 5rem TEDE (Whole Body)

Min. Inhalation ALI: 700μCi equals 5rem TEDE (Whole Body)

Doses:

Skin Dose: Reported for 1 μCi over 10 cm^2 of skin
32.9 mrad/hr (gamma dose)

Point Source: 0 mrad/hr (beta dose)

Disk Source: 0 mrad/hr (beta dose)

Shielding data:

Max. range for beta:
Plastic = 0.07 cm
Aluminum = 0.03 cm

Tenth Value Thickness for average gamma:
Concrete = cm
Lead = cm

Detection Information: Usable Detectors listed with estimated efficiencies
(Use efficiencies listed on instrument when available)

Ludlum 3 with pancake probe at 1 cm: %
Ludlum 3 with NaI probe near surface: %
Liq. Scint. Counter: %
Gamma Counter: %

Action Quantities:

Bench top quantity must be less than	7000 μCi
Containers require labeling when greater than	100 μCi
Rooms require posting when there is greater than	1000 μCi
Contamination lasting more than 24 hrs require NRC notification when greater than	3500 μCi