RADIONUCLIDE DATA SHEET
Bromine – 82

Br – 82 35 protons 47 neutrons

Radiation: **Decay mode:** Beta

Major Betas:

Max E (MeV)	Avg E (MeV)	# per 100 dis
0.265	0.076	1
0.444	0.138	98

Max. Beta Range in air 140 cm or 4.59 ft
Max. Beta Range in water 0.15 cm

Major Gammas:

E (MeV)	# per 100 dis
0.554	71
0.619	43
0.776	83

Avg. gamma E = 0.802 MeV

Half – life: 1.47days

Gamma constant: 18 mR/hr per 1 mCi at 30 cm

Radiological data:

Min. Ingestion ALI: 3000 μCi equals 5 rem TEDE (Whole Body)
Min. Inhalation ALI: 4000 μCi equals 5 rem TEDE (Whole Body)

Doses:

Skin Dose: Reported for 1 μCi over 10 cm^2 of skin
46.6 mrad/hr (gamma dose)
Point Source: 466 mrad/hr (beta dose)
Disk Source: 468 mrad/hr (beta dose)

Shielding data:

Max. range for beta:	Plastic	=	0.15 cm
	Aluminum	=	0.07 cm
Tenth Value Thickness for average gamma:	Concrete	=	13.1 cm
	Lead	=	2.3 cm

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

Ludlum 3 with pancake probe at 1 cm:	9 %	**Liq. Scint. Counter:**	80 %
Ludlum 3 with NaI probe near surface:	4 %	**Gamma Counter:**	65 %

Action Quantities:

Bench top quantity must be less than	30000 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	15000 μCi

Updated – 08/02/2005