RADIONUCLIDE DATA SHEET
Cobalt – 60

Co – 60 27 protons 33 neutrons

Radiation: **Decay mode:** Beta

Major Betas:

Max E (MeV)	Avg E (MeV)	# per 100 dis
0.318	0.096	

Max. Beta Range in air 74 cm or 2.43 ft
Max. Beta Range in water 0.1 cm

Major Gammas:

E (MeV)	# per 100 dis
1.173	100
1.333	100

Avg. gamma E = 1.25 MeV

Half – life: 5.27 years or 1.92E+03 days

Gamma constant: 15.2 mR/hr per 1 mCi at 30 cm

Radiological data:

Min. Ingestion ALI: 200 μCi equals 5 rem TEDE (Whole Body)
Min. Inhalation ALI: 30 μCi equals 5 rem TEDE (Whole Body)

Doses:

Skin Dose: Reported for 1 μCi over 10 cm^2 of skin
41.7 mrad/hr (gamma dose)
Point Source: 377 mrad/hr (beta dose)
Disk Source: 380 mrad/hr (beta dose)

Shielding data:

Max. range for beta:	Plastic	=	0.1 cm
	Aluminum	=	0.04 cm
Tenth Value Thickness for average gamma:	Concrete	=	17 cm
	Lead	=	3.3 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:**	85 %
Ludlum 3 with NaI probe near surface:	1 %	**Gamma Counter:**	15 %

Action Quantities:

Bench top quantity must be less than	300 μCi
Containers require labeling when greater than	1 μCi
Rooms require posting when there is greater than	10 μCi
Contamination lasting more than 24 hrs require NRC notification when greater than	150 μCi

Updated – 08/02/2005