RADIONUCLIDE DATA SHEET
Gold – 198

Au – 198 79 protons 119 neutrons

Radiation: **Decay mode:** Beta

Major Betas:

Max E (MeV)	Avg E (MeV)	# per 100 dis
0.285	0.079	1
0.961	0.315	99

Max. Beta Range in air 390 cm or 12.8 ft
Max. Beta Range in water 0.42 cm

Major Gammas:

E (MeV)	# per 100 dis
0.412	96
0.676	1
1.088	0.23

Avg. gamma E = 0.407 MeV

Half – life: 2.69 days

Gamma constant: 3.24 mR/hr per 1 mCi at 30 cm

Radiological data:

Min. Ingestion ALI: 1000 μCi equals 5 rem TEDE (Whole Body)
Min. Inhalation ALI: 2000 μCi equals 5 rem TEDE (Whole Body)

Doses:

Skin Dose: Reported for 1 μCi over 10 cm^2 of skin
7.72 mrad/hr (gamma dose)
Point Source: 613 mrad/hr (beta dose)
Disk Source: 614 mrad/hr (beta dose)

Shielding data:

Max. range for beta:	Plastic	=	0.42 cm
	Aluminum	=	0.2 cm
Tenth Value Thickness for average gamma:	Concrete	=	11 cm
	Lead	=	0.92 cm

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

Ludlum 3 with pancake probe at 1 cm:	11 %	**Liq. Scint. Counter:**	85 %
Ludlum 3 with NaI probe near surface:	1 %	**Gamma Counter:**	40 %

Action Quantities:

Bench top quantity must be less than	10000 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	5000 μCi

Updated – 08/02/2005