RADIONUCLIDE DATA SHEET
Chromium – 51

Cr – 51 24 protons 27 neutrons

Radiation: **Decay mode:** Electron Capture

Major Betas:

Max E (MeV)	Avg E (MeV)	# per 100 dis
None		

Max. Beta Range in air N/A
Max. Beta Range in water N/A

Major Gammas:

E (MeV)	# per 100 dis
0.32	10

Avg. gamma E = 0.32 MeV

Half – life: 27.7 days

Gamma constant: 0.26 mR/hr per 1 mCi at 30 cm

Radiological data:

Min. Ingestion ALI: 40000 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
28.9 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 cm
	Aluminum	=	0 cm
Tenth Value Thickness for average gamma:	Concrete	=	9.5 cm
	Lead	=	0.55 cm

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

Ludlum 3 with pancake probe at 1 cm:	<1 %	**Liq. Scint. Counter:**	30 %
Ludlum 3 with NaI probe near surface:	<1 %	**Gamma Counter:**	3 %

Action Quantities:

Bench top quantity must be less than	20000 μCi
Containers require labeling when greater than	1000 μCi
Rooms require posting when there is greater than	10000 μCi
Contamination lasting more than 24 hrs require NRC notification when greater than	10000 μCi

Updated – 08/02/2005