

RADIONUCLIDE DATA SHEET

[TECHNETIUM]

Tc-99

43 protons

56 neutrons

Half Life: 6.01 hours

Radiation: Decay Mode: Isomeric Transition

Gamma Constant: 1.36 mR/hr per 1 mCi at 30 cm

Major Gammas:

E(MeV)	# per 100 Dis
0.141	89

Max. Beta Range in Air : N/A cm

Max. Beta Range in Water : N/A cm

Average gamma E = 0.131 MeV

Intake Data (annual):

Minimum Ingestion: 80000 μ Ci equals 5 rem TEDE (WHOLE BODY)

Minimum Inhalation: 200000 μ Ci equals 5 rem TEDE (WHOLE BODY)

Doses:

Skin Dose: Reported for 1 μ Ci over 10 cm² of skin
4.27 mrad/hr (gamma dose)

Point Source: 0 mrad/hr (beta dose)

Disk Source: 0 mrad/hr (beta dose)

Shielding Information:

Maximum Range For Beta	Plastic	0 cm
	Aluminum	0 cm
Tenth Value Thickness For Average Gamma:	Concrete	6.7 cm
	Lead	0.08 cm

Detection information: Usable Detectors listed with estimate efficiencies

Ludlum 3 w/ pancake probe at 1 cm	1%	Liq. Scint. Counter	70%
Ludlum 3 w/ NaI probe near surface	3%	Gamma Counter	70%

Action Quantities:

Bench Top Quantity Must Be Less Than	800000 μ Ci
Containers Require Labeling When Greater Than	1000 μ Ci
Rooms Require Posting When There Is Greater Than	10000 μ Ci
Contamination Lasting More than 24 hrs Require NRC Notification At	400000 μ Ci