

RADIONUCLIDE DATA SHEET

[COPPER]

Cu-67

29 protons

38 neutrons

Half Life: 2.58 days

Radiation: Decay Mode: Beta

Gamma Constant: 0.97 mR/hr per 1 mCi at 30 cm

Major Betas:

Max E(MeV)	Avg E (MeV)	# per 100 dis
0.390	0.121	57
0.482	0.154	22
0.575	0.189	20

Max. Beta Range in Air : 200 cm

Max. Beta Range in Water : 0.21 cm

Major Gammas:

E(MeV)	# per 100 Dis
0.091	7
0.093	16
0.185	49

Average gamma E = 0.157 MeV

Intake Data (annual):

Minimum Ingestion: 5000 μ Ci equals 5 rem TEDE (WHOLE BODY)

Minimum Inhalation: 5000 μ Ci equals 5 rem TEDE (WHOLE BODY)

Doses:

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

Point Source: 507 mrad/hr (beta dose)

Disk Source: 511 mrad/hr (beta dose)

Shielding Information:

Maximum Range For Beta	Plastic	0.21 cm
	Aluminum	0.1 cm
Tenth Value Thickness For Average Gamma:	Concrete	7.1 cm
	Lead	0.11 cm

Detection information: Usable Detectors listed with estimate efficiencies

Ludlum 3 w/ pancake probe at 1 cm	9%	Liq. Scint. Counter	85%
Ludlum 3 w/ NaI probe near surface	3%	Gamma Counter	70%

Action Quantities:

Bench Top Quantity Must Be Less Than	50000 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	25000 μ Ci