

# RADIONUCLIDE DATA SHEET

[CARBON]

C-14

6 protons

8 neutrons

**Half Life:** 5730 years

**Radiation:** Decay Mode: Beta

**Gamma Constant:** 0 mR/hr per 1 mCi at 30 cm

## **Major Betas:**

Max E(MeV)	Avg E (MeV)	# per 100 dis
0.156	0.049	100

Max. Beta Range in Air : 30 cm

Max. Beta Range in Water : 0.03 cm

Average gamma E = N/A

## **Intake Data (annual):**

Minimum Ingestion: 2000  $\mu$ Ci equals 5 rem TEDE (WHOLE BODY)

Minimum Inhalation: 2000  $\mu$ Ci equals 5 rem TEDE (WHOLE BODY)

## **Doses:**

**Skin Dose:** Reported for 1  $\mu$ Ci over 10 cm<sup>2</sup> of skin

0 mrad/hr (gamma dose)

Point Source: 111 mrad/hr (beta dose)

Disk Source: 114 mrad/hr (beta dose)

## **Shielding Information:**

Maximum Range For Beta	Plastic	0.03 cm
	Aluminum	0.01 cm
Tenth Value Thickness For Average Gamma:	Concrete	0 cm
	Lead	0 cm

**Detection information:** Usable Detectors listed with estimate efficiencies

Ludlum 3 w/ pancake probe at 1 cm	2%	Liq. Scint. Counter	85%
Ludlum 3 w/ NaI probe near surface	0%	Gamma Counter	0%

## **Action Quantities:**

Bench Top Quantity Must Be Less Than	20000 $\mu$ Ci
Containers Require Labeling When Greater Than	100 $\mu$ Ci
Rooms Require Posting When There Is Greater Than	1000 $\mu$ Ci
Contamination Lasting More than 24 hrs Require NRC Notification At	10000 $\mu$ Ci