

³³P

Nuclide Safety Data Sheet
Phosphorus-33
www.nchp.org

³³P

I. PHYSICAL DATA

Radiation: beta (100% abundance)
Energy: Maximum: 248.5 keV; Average: 76.4 keV
Half-Life [T_{1/2}]: Physical T_{1/2}: 25.3 days
Biological T_{1/2}: Bone 1155 days; Whole body 257 days⁻¹
Effective T_{1/2}: 25.3 days
Specific Activity: 156,000 Ci/g [5,780 TBq/g] max.
Beta Range: Air: 50 cm [20 inches]
Water/Tissue: 0.06 cm [0.024 inches]
Plastic: 0.05 cm [0.02 inches]

II. RADIOLOGICAL DATA

Radiotoxicity²: 15.6 mrem/uCi [Lung] 2.32 mrem/uCi [CE E] of ³³P inhaled
1.85 mrem/uCi [Bone Marrow] 0.92 mrem/uCi [CE E] of ³³P ingested
Critical Organ: Bone [soluble ³³P]; Lung [Inhalation]; GI Tract [Ingestion - insoluble compounds]
Exposure Routes: Ingestion, inhalation, puncture

