Radionuclide Safety Reference Sheet
Tritium, 3 Hydrogen

Beta Energy: 5.7 keV average
(18.6 keV max)
Range in air: 0.25 inches
Range in lucite: insignificant
Shielding: none required

Critical Organ: body water or tissue
Exposure Routes: inhalation, ingestion, skin absorption
Dosimetry: none required
Bioassay: 1. Urine

Detection & Measurement
GM Pancake: no response
Liquid Scintillation Counting—smear test required

Special Precautions:
△ Analyze surface and hand smears by LCS for removable contamination;
△ Portable survey meters cannot detect laboratory quantities of tritium;
△ Tritium compounds may penetrate gloves and skin—handle these materials remotely (i.e., tongs);
△ Use double gloves and change the external pair often;
△ Tritium spreads easily and is difficult to detect--report all spills to the RSO.

Personal Protective Equipment

Disposal: Segregate from <90 day T ½ waste. Do not comingle with ‘decay in storage’ wastes.

1. Urine bioassay may be required after any accident/incident where intake is suspected.