

**Doses from a 1 micron diameter plutonium oxide particle to lymphatic system according to different calculation schemes.**

Calculating absorbed dose from a 1 micron diameter Plutonium Oxide Particle using:  
 dose to the lymphatic system defined by NRPB in R-276 (col. 2),  
 lymphatic system defined by ICRP 23 Reference Man (col. 3)  
 and actual dose to tissue in range of the 30 micron alpha decays (col. 4)

In the Table the mass of tissue into which decay energy is diluted, according to the various calculation schemes, is given in grams.

	*NRPB R-276	**ICRP 23 Reference man	30 micron radius
Lymph nodes	250		
liver	1800		
spleen	180		
kidneys	310		
pancreas	100		
uterus	100		
thymus	20		
thyroid	20		
stomach	150		
intestine and colon	1000		
red bone marrow	1500		
cells on bone surface	1000		
<b>Total lymphatic system</b>	<b>6430</b>	<b>800</b>	<b>1.13x10E-7</b>

\* NRPB R-276: p 86 Doses to the lymphatic system: No comprehensive assessment of doses to the lymphatic system has been undertaken by an international body such as UNSCEAR or ICRP. In this report these doses have been calculated as the mass weighted average dose to a combination of tissues which account for a substantial fraction of the total lymphatic system of the body. The combination of tissues used for the calculation comprises the thoracic and extrathoracic lymph nodes, the liver, spleen, kidneys, pancreas, uterus, thymus, thyroid, stomach, small intestine, upper large intestine, colon, red bone marrow and cells on the bone surfaces.

\*\* ICRP 23: Report of the Task Group on Reference Man 1975