

Principle sources of alpha, beta, and gamma activity in ambient particulate matter samples

Radionuclide	Measured Activity	Half-life	Primary Source	
^7Be	γ - radionuclide specific	53.3 days	Cosmic ray interaction with atmospheric gases	
^{222}Rn	none	3.8 days	Diffusion of radon-222 from the Earth's surface followed by radioactive decay	
^{218}Po ^{214}Pb ^{214}Bi ^{214}Po	none	all less than 30 minutes		
^{210}Pb	β γ - radionuclide specific	22 years		
^{210}Bi	β	5.01 days		
^{210}Po	α	138.4 days		
^{206}Pb	none	no decay		
^{234}U	α	2.5×10^5 years		Nuclear energy/weapons activities and natural background
^{235}U	α	7×10^8 years		
^{238}U	α	4.5×10^9 years		
^{238}Pu	α	88 years	Nuclear energy/weapon activities	
^{239}Pu	α	2.4×10^4 years		
^{241}Am	α	433 years		