

HOW DO WE MEASURE INTERNAL RADIATION?

Workers' internal exposure to alpha (α) radiation (the most ionising type of radiation when exposure occurs inside the body) can come from either of two inhalation sources and pathways:

1. Inhalation (breathing in) dust containing alpha emitting radionuclides, or
2. Inhaling air with radon gas decay products, which are alpha emitters.



These two internal inhalation exposures are measured separately with personal measuring devices:

MyRIAM instrument

Radioactive dust that might be inhaled by the worker is sampled with the SARAD™ MyRIAM ('My Radiation In Air Monitor'), using a small internal pump that forces air through a filter.

After the sampling interval (for example a day, or up to a week) the filter is analysed by the instrument and the resulting radiation dose can be recorded.

DoseManPro Monitor

Radon decay products in air that might be inhaled are sampled with the SARAD™ DoseManPro monitor, which also pumps air through an internal filter, collecting radon daughter products on the filter.

During the sampling, the filter is immediately analysed by the instrument and the resulting radiation dose can be recorded. The filter cannot be analysed after the sampling interval has elapsed as the radon decay products are very short lived and must be measured instantly as they occur.



MyRIAM instrument



DoseManPro monitor