

Title	Hair and feathers as indicator of internal contamination of $^{210}\text{Po}$ and $^{210}\text{Pb}$
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Abstract	<p>The activities of the NKS-B HAIRPOL project is summarised in this report. The objective was to investigate if hair and feathers were suitable matrices for the estimation of the intake of <math>^{210}\text{Po}</math>. Human hair from people of different sex and age was analysed for <math>^{210}\text{Po}</math> showing concentrations between 0.4 to 11 Bq/kg dry weight. Samples from horses, mane, fur and tail showed concentration from 6 to 17 Bq/kg with no significant difference between the different sample types. Musk ox from Greenland showed much higher concentrations since the animal has to graze a large surface. In fur the concentration was 260 Bq/kg. A considerable fraction of the total <math>^{210}\text{Po}</math> in this animal is contained in the hair. Also different organs were analysed and the highest concentration was found in kidney, 2 700 Bq/kg. The <math>^{210}\text{Pb}</math> concentration in hair was estimated to about 20 Bq/kg. Three different seabirds from Svalbard were analysed. Feathers from all three seabird species show increasing activity concentrations of <math>^{210}\text{Po}</math> and <math>^{210}\text{Pb}</math> from the base to the tip of the feather, but it was difficult to relate feather concentrations to muscle concentrations due to a number of complicating factors.</p>
Key words	$^{210}\text{Po}$ , $^{210}\text{Pb}$ , humans, hair, horse, fur, musk ox, seabirds, feathers