

## Snow scientists research falling mercury

**Voice-over 1:**

Here in the Arctic, we've found mercury contaminating the food chain from the bottom to the top. And at the top of the food chain there are the big predators, and there is man. We want to understand how the mercury gets into the food chain and why, in an area which is so far away from any source, and which appears so clean and pure, it is becoming so concentrated.

**Voice-over 2:**

The main sources of atmospheric mercury are mining and industrial combustion. A unique combination of chemical, physical and geographical conditions conspire to concentrate the mercury over the North Pole, falling on the ice sheet. When it's insoluble, mercury is harmless, but after reacting with Arctic bacteria and fungi it's transformed into a highly toxic form called methyl mercury. As the snow and ice thaws, this toxic mercury seeps into the ocean and there, it's absorbed by plankton, and so begins it's journey up the food chain. Mercury is what scientists call bioaccumulable; the further up in the food chain it travels, the more concentrated it becomes. With humans at the top, some Nordic countries have even advised vulnerable groups not to eat too much of some North Atlantic fish.

**Voice-over 3:**

We want to find out if the mercury has maybe transformed into this toxic methyl mercury form, where there's a threat to the food chain, and therefore man. We're doing this research on a biological level. We filter the snow to isolate the bacteria in it, and then we look to see if they're capable of reacting with mercury.

**Voice-over 2:**

And that's done in sophisticated microbiology labs back in mainland Europe. Researchers in central France have isolated at least eleven different types of Arctic bacteria that they suspect have the ability to change benign atmospheric mercury into the toxic methyl mercury.

**Voice-over 3:**

These are bacteria we found at the North Pole, and extracted from the snow. It's very interesting. We want to know if they're going to react with mercury.

**Voice-over 2:**

They identify the bacteria and grow them on in a culture medium, before they're frozen.

*Futuris*, Copyright © 2008 - Euronews, All Rights Reserved.