

What is mercury?

Mercury in its 'elemental' form is a dense, silver-white metal which is liquid at room temperature. Elemental mercury was known in the past as "quick-silver" because of its silvery colour and heavy liquid texture.

How did mercury get into the environment at gold mines?

When gold was mined in Nova Scotia in the late 1800s and early 1900s, crushed rock was spread over liquid mercury. Gold particles stick to mercury, so the gold-bearing mercury could be easily separated from crushed rock. The mercury could then be evaporated, leaving the gold. The remaining crushed rock was a sand-like substance known as tailings. It was typically dumped into low-lying areas or lakes and streams near the mine. The mercury was recovered for reuse, but some was lost through spills and has accumulated in the tailings.

Can mercury be harmful to humans?

Nova Scotians are not likely to be affected by mercury from gold mine tailings because their exposure is probably very low. Exposure to mercury generally occurs through food intake. Long-term exposures to mercury at low levels may cause some minor health effects. Long-term exposures at high levels may cause acute symptoms involving the nervous system. There is no evidence of Nova Scotians becoming ill due to mercury.

Can people be harmed by breathing mercury vapours?

It is not likely that Nova Scotians are breathing high enough concentrations of mercury vapours to be affected. Breathing them in an enclosed space can cause health effects, but breathing them in a well-ventilated situation, such as outdoors, dilutes the vapours enough to reduce any risk, even when right on top of tailings.

Is it harmful to eat fish or shellfish caught near tailing sites?

Agriculture and Fisheries has issued a freshwater fish consumption advisory for the past 15 years because of mercury. The following is recommended in all areas of the province, whether tailings are present or not:

- rainbow trout – safe to eat
- brook trout and white perch under 25 cm – safe to eat once a week
- other freshwater fish – safe to eat once every two weeks, except for children under eight and pregnant or nursing women

As a precaution, Department of Fisheries and Oceans has closed one beach to shellfish harvesting at Upper Seal Harbour in Guysborough Co. due to the high levels of arsenic found in clams there. Only recreational, not commercial harvesting was taking place at this beach. Commercial shellfish are tested so there is no problem with arsenic or mercury in the shellfish you buy in stores.

Is it harmful to eat produce grown in contaminated soil?

Fruits and vegetables should always be washed before eating. Most produce would not absorb chemicals from the soil, so washing off soil and dust is sufficient. Root vegetables grown directly in tailings may absorb more chemicals, so eating them should be avoided. These recommendations are for private gardens. No commercial agricultural operations are located near the tailing sites.

What else should be done to reduce exposure to mercury?

Most measures to reduce exposure are simply good habits that are always recommended, regardless of proximity to gold mine tailings:

- wash your hands frequently and before eating
- wash fruits and vegetables before eating, whether they're from the grocery store or your own garden
- don't let children play around tailings
- don't use tailings as fill for driveways, gardens or children's sandboxes
- remove shoes after being outdoors, so soil won't be tracked into the house

How can I tell if my health has been affected by mercury?

It's not likely that Nova Scotians are being affected. Gold tailings have been around for many, many years. There is no evidence of Nova Scotians becoming ill from excessive exposure to mercury associated with gold tailings. The symptoms are subtle and it really takes tests by a doctor to determine if health problems could be associated with arsenic or mercury exposure.

Who should I call if I want myself or my children tested?

To be at risk, you would need to be exposed at high levels on an ongoing basis. If we find that a specific group is at risk and we determine testing is necessary, the medical officer of health will notify these people and coordinate testing. In the meantime, the best way to reduce risk is to reduce exposure with the measures listed above.

Who should I call if I want to test my soil for mercury or my home for vapours?

Before taking this step, it's recommended that residents determine if it's warranted. Check the information about gold mining districts and sites, and the descriptions of what tailings look like at www.gov.ns.ca/enla/goldmines . If you think you may be living on tailings, call the provincial public inquiries line: **424-5200 in HRM or 1-800-670-4357**. You will be directed to an expert who can help you determine if you may live on tailings.

Members of the Consulting Engineers of Nova Scotia (www.cens.org) or the Association of Professional Geoscientists of Nova Scotia (www.apgns.ns.ca) would be capable of doing this testing.

Who can I call for more information?

There are numerous provincial and federal experts. To reach one of them for specific questions, Nova Scotians can call the provincial public inquiries line: **424-5200 in HRM or 1-800-670-4357**. Calls will be directed to the appropriate agency for answers.