

Jan. 7, 2016

ARSENIC FACT SHEET



What is the occurrence of arsenic in the environment?

Arsenic is a naturally occurring metal in soil and minerals. It may enter the air, water, and soil due to wind-blown dust or from storm water runoff or leaching. Exposure can occur by breathing (inhalation), through eating or drinking (ingestion), and through the skin (dermal absorption). Arsenic exposure most commonly comes from ingestion.

Measurable levels of arsenic can be found in soil and sand throughout the world. Some areas of the US contain high natural levels in rock which can lead to high levels in soil or water. The naturally occurring background levels of arsenic in Florida soil varies from 0.01 to 37.6 mg/kg.

Are there target levels for residential exposure in Florida?

Yes. Florida Soil Cleanup Target Levels (SCTLs) for direct residential exposure are found in the Florida Administrative Code Chapter 62-777. The SCTL for arsenic in residential soil is 2.1 mg/kg.

For the Wedgewood community, testing of arsenic levels at the four locations, plus the background site, ranged from 0.75-3.6 mg/kg. Elevated levels of naturally occurring arsenic have been well documented in Florida soils. Monitoring found no other contaminants.

Do levels of arsenic in the Wedgewood recreational facilities of Escambia County pose a health risk?

The World Health Organization, the U.S. Department of Health and Human Services, and the U.S. Environmental Protection Agency have all determined exposure to inorganic arsenic increases the risk of cancer in humans. These include cancers of the lung, skin, bladder, liver, kidney, and prostate.

To ensure the protection of public health, the Florida Department of Health (FDOH) uses “worst-case” assumptions to estimate cancer risk. High-end estimates like these ensure that the actual chance of getting cancer from contact with arsenic will most likely be less. The level FDOH considers “safe” is likely to overstate the actual cancer risk. The risk for developing cancer may even be zero.

Based on Escambia County’s test results, the levels of arsenic in Wedgewood area soil are similar to Pensacola area background levels. Test results do not indicate contamination from the Rolling Hills Landfill. Because of large built-in safety factors, arsenic levels like the ones found in the Wedgewood community are not likely to harm health.

FDOH does not expect non-cancer or short-term health effects for children or adults from the levels of arsenic found in the Wedgewood community soil. When compared to the daily safe

dose for arsenic that is used to evaluate risk, the estimated exposure dose from the soil is well below the daily dose.

How does the background concentration of arsenic factor into assessments?

Just because sampling shows that environmental contamination exists, that does not tell you where the chemicals came from. In some cases, cleanup target levels, which are purely risk-based estimates, will be lower than the levels that occur naturally. Understanding how these “background” levels that occur naturally in an area may contribute to those found in soil sampling is an important part of site-specific assessments.

Background levels of substances occur naturally (or are ambient) in the environment with no influence by humans (such as metals in soils). Since the levels of arsenic found in the Wedgewood area soil sampling are consistent with those at background, one can conclude that local sources have not significantly impacted the soil. Generally, agencies like the US Environmental Protection Agency (EPA) do not clean up below natural background levels.

Is there a medical test for arsenic exposures?

There are tests to measure the level of arsenic in blood, urine, hair, or fingernails. The urine test is the most reliable test for arsenic exposure occurring within the last few days. Tests on hair and fingernails can measure exposure to high levels of arsenic over the past 6-12 months. These tests can determine you were exposed to above-average levels of arsenic. They cannot, however, predict how the arsenic levels in your body will affect your health.

Is soil exposure the only source of arsenic?

Arsenic is also present in food and drinks. In general, the highest levels of total arsenic are found in food. They include both organic and inorganic forms of arsenic. Concentrations are highest in seafood, followed by meats and grain. Fruit, vegetables and dairy products tend to have lower total amounts. It is estimated the daily intake of total arsenic in the general population typically lies between 20 and 300 micrograms per day (ug/day). Of that, only a small fraction comes from ingestion of arsenic in soil.

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