

CITY OF WARRENTON, GEORGIA MERCURY REDUCTION

Introduction

Mercury is a naturally occurring element that is found in air, water and soil. It exists in several forms such as elemental or metallic mercury, inorganic mercury compounds, and organic mercury compounds. Pure mercury is a silvery liquid metal that volatilizes (evaporates) easily. Mercury has been used to make products such as thermometers, electrical switches, and some types of light bulbs.

The State of Georgia has issued a total maximum daily load (TMDL) for mercury in the Ogeechee River basin due to elevated mercury levels found in certain fish such as largemouth bass, red breasted sunfish, channel catfish, and spotted suckers. The goal of the TMDL is to reduce the amount of mercury found in the fish to levels below the Fish Consumption Guidelines established by the Georgia Department of Natural Resources. The TMDL determines the maximum amount of mercury that can enter the watershed each year and maintain concentrations at acceptable levels.

Mercury can enter the sewer system through seepage from the ground or through sewage that is collected from each customer through the City sewers. The City of Warrenton has developed a Mercury Minimization Plan to help reduce the amount of mercury discharged at the Wastewater Treatment Plant. The City is making process changes at the plant to remove more mercury but it is essential that each of the City's water and sewer customers do their part to reduce the amount of mercury entering the sewerage system. If less mercury enters the sewer system, less mercury will be discharged to the environment.

The Impacts of Mercury

Mercury may accumulate in water resources from naturally occurring deposits, precipitation from air, or by introduction from industrial, medical, and residential sources. Once mercury has accumulated in lakes and streams it can be converted to methylmercury by microbial activity. Methylmercury is readily absorbed by the digestive tract of fish and bioaccumulates as it moves up the food chain. In other words, the levels of methylmercury in sport fish like largemouth bass increase as they consume smaller fish that have methylmercury in their tissue.

As the methylmercury increases to certain levels, it may harm the fish and other animals that eat them, including humans. Mercury exposure at high levels can harm the brain, heart, kidneys, lungs, and immune system. For the most part, people do not normally consume enough fish to cause health problems. In rare cases, however, where children have ingested large amounts of contaminated substances, elevated levels of methylmercury have been shown to cause problems in developing the nervous system and impairing their ability to think and learn. People who

regularly consume fish taken from the local rivers and streams are advised to consult the Fish Consumption Guidelines published by the Department of Natural Resources.

Common Household Items Containing Mercury

Mercury can be found in a number of items around the home, including the following

- Thermometers
- Blood-Pressure Cuffs
- Fluorescent Light Bulbs
- Auto Switches
- Button Cell Batteries
- Old Alkaline Batteries (Pre-1996)
- Chemistry Sets
- Dental Amalgam (Silver Fillings)
- Thermostats
- Barometers
- Mercurochrome
- Float Switches
- Old Latex Paint (Pre-1990)
- Some Oil-Based Paints
- Old Fungicides for Seeds and Turf
- Counterweights in Grandfather Clocks

Mercury Disposal

The State of Georgia and the City's Sewer Use Ordinance prohibit the disposal of hazardous waste such as mercury through the sewerage system. Such items must be disposed of at a hazardous waste collection facility. Local companies such as Advanced Disposal, do not pick up or collect hazardous waste, but will typically accept such waste at their facilities. If you are unable to locate a collection facility, please contact the City office for assistance.

When disposing of any mercury containing items, always use personal protective gear such as rubber gloves and mask to minimize exposure. In case of a spill, such as a broken thermometer, mercury beads may be squeegeed onto a damp paper towel or drawn up with a medicine dropper for collection. Shaving cream on top of a small paint brush may be used to dot the area and collect small, hard-to-see beads. The collected mercury should be placed in a plastic zip-loc bag and disposed of as noted above. After collection the area should be kept well ventilated to the outside and kept free of children and pets for at least 24 hours. Should you become sick, please seek immediate medical attention.

Conclusion

Please be assured that the City of Warrenton's goal is to maintain a healthy environment and protect the health of our citizens, but we need each of our customers to do their part to make it possible. If you are unsure of a product's contents and the proper disposal method, please consult the manufacturer, the local solids waste authority, or contact the City office for assistance. Remember, it only takes a little mercury to do a lot of damage. In fact, the amount is so small; we measure the concentration in parts per BILLION.