

WHY IS IT
IMPORTANT
FOR YOUR
DENTIST TO BE
ENVIRONMENTALLY
FRIENDLY?

MARS

BIO-MED PROCESSES INC



A BIT ON MERCURY

THE DANGERS OF THE MERCURY CYCLE

Mercury amalgam is released from the dental practice where it enters the city's sewer system, heading towards the Water Treatment Plants. Most of the mercury leaving a dental practice is soluble or dissolved; soluble mercury is more easily absorbed by the human body. No chemical or sediment traps would be able to capture it, therefore it will enter into our waterways. The mercury will then flow into larger bodies of water which we use for food (fish and other wild life), irrigation (farming) and supplying our homes. The term bioaccumulation refers to the net accumulation over time of metals within an organism from both biotic (other organisms) and abiotic (soil, air, and water) sources. Simply put, anything that lives, eats or uses a contaminated body of water will absorb the toxins in its surroundings. The higher the organisms are on the



An illustration that demonstrates the cycle in which mercury can contaminate our water and food supplies.

food chain, the higher concentration of mercury there will be, this process is called bio magnification.

Why the M.A.R.S LibertyBOSS?

Amalgam separators are used to remove the mercury out of the dental waste water before it enters the city's sewer system. Without an amalgam separator, the average dentist will release roughly three pounds of solid mercury per year. Mercury amalgam, being more dangerous than standard mercury because it contains 4% tin, which has an ionic charge that will release the mercury into its

free state. If this mercury amalgam is submerged into a liquid, it creates soluble mercury, a substance that your local water treatment plant cannot capture with current technology. To learn more about the dangers of mercury, please read **A Bit on Mercury**. Your Dentist has made the conscious effort to be more environmental by installing the only amalgam separator to be rated as "Best Available Technology" and "Environmentally Friendly." The M.A.R.S. LibertyBOSS amalgam separator is able to capture all forms of mercury, including soluble. This assists in making your Doctor's practice more environmentally friendly than other practices who chose to use other types of amalgam separators or have not yet installed one.



Mercury is a known neurotoxin, and can cause birth defects. It has not always been considered an environmental hazard as it is today. Mercury was commonly used in many devices and found in many science class rooms. In the 1800's, "Mad Hatters Disease" was an occupational hazard among hat makers (turning fur into felt), caused by the combination of poor ventilation and chronic mercury poisoning. It affected those who's felting work involved prolonged exposure to mercury vapors. As a waste entering the environment, it was not considered very hazardous and often considered insoluble in water.

In the 1980's the level of mercury entering a Waste Water Treatment plant was not a concern unless it was over 2 parts per billion. The drinking water standard at that time allowed the limit for mercury to be as much as 2 parts per billion (2 ug/L or 2,000 ng/L). It was the issue of mercury in the food supply that changed our way of thinking. To put it another way, one teaspoon of mercury can damage a 10 acre lake, causing it to be toxic to fish and animals, as well as to humans who use the fish as food.

One of the ways your Dentist has made an effort to be more environmentally conscience is by installing the only amalgam separator to be rated as the "Best Available Technology" and "Environmentally Friendly". The M.A.R.S. Liberty-BOSS amalgam separator is able to capture all forms of mercury, including soluble. This assists in making your Doctor's practice more environmentally friendly than other practices who chose to use other types of amalgam separators that only target solid mercury.

COLOR AND LEARN

Color this picture in and learn the effects mercury has on the environment!

