

**Model Dental Mercury Legislation
Mercury Policy Project Draft 3-31-03**
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**“AN ACT CONCERNING PATIENT NOTIFICATION AND
AMALGAM MERCURY USE, REDUCTION AND ELIMINATION
FROM DENTAL OFFICES”**

WHEREAS, Mercury is a persistent, bio-accumulative toxin that poses a significant risk to human health, wildlife and the environment; and,

WHEREAS, Mercury is a heavy liquid metallic chemical compound; and,

WHEREAS, Elemental mercury and mercury compounds are known to be toxic and hazardous to human health and the environment; and,

WHEREAS, mercury waste emitting from dental clinics has been shown to fail the Environmental Protection Agency's TCLP and, therefore, be determined a regulated hazardous waste; and,

WHEREAS, researchers for the U.S. Naval Dental Research Institute indicate that, when discharged to the environment, conditions may be right for waste dental mercury to methylate, become bioavailable and subsequently biomagnify in fish as methylmercury, a most toxic form of mercury; and,

WHEREAS; The American Dental Society estimates that the dental industry places 100 million dental amalgams annually and each dental amalgam has approximately 0.5 grams of mercury; and,

WHEREAS, The National Academy of Science reported in 2001 that "The major source of exposure to elemental mercury in the general U.S. population is due to mercury vapor released from dental amalgams;"

WHEREAS, The National Academy of Science report in 2001 "..estimated that over 60,000 children are born each year at risk for adverse neurodevelopmental effects due to in utero exposure to methyl mercury;"

WHEREAS, 41 states have issued recreational fish consumption advisories due to levels of mercury;

WHEREAS, the U.S. Food and Drug Administration has issued fish consumption advisories due to levels of mercury in commercially-caught fish and in January 2001 warned pregnant women and young children not to eat certain marine fish;

WHEREAS, The U.S. Centers for Disease Control and Prevention study released in 2002 indicated in the first nationally representative sampling that at least one in twelve women of child-bearing age have blood mercury levels in their bodies above what is considered safe to the developing fetus;

WHEREAS, The U.S. Environmental Protection Agency has established a reference dose (RfD) for methylmercury of 0.01ug/kg; and,

WHEREAS, The U.S. Environmental Protection Agency reports the average level of methylmercury found in fish is 1,000 ug/g which substantially exceeds the RfD exposing a major portion of the U.S. population to the harmful effects of methylmercury; and,

WHEREAS, The effect of mercury on the central nervous system includes tremors; impaired vision and hearing; paralysis; shyness, insomnia, parathesia, emotional instability; developmental deficits during fetal development, attention deficit, developmental delays during childhood and weakens the human immune system; and,

WHEREAS, according to the U.S. Environmental Protection Agency, the Association of Metropolitan Sewerage Agencies, and numerous other studies, dental clinics are by far the largest single contributor of mercury to the municipal waste water treatment facilities; and

WHEREAS, according to data projections from the U.S. Environmental Protection Agency and the United State Geological Service, dental clinics remain one of the largest users of mercury in the United States in 2003;

WHEREAS, The dental industry is a significant and persistent user of anthropogenic mercury and contributor through the discharge of amalgam particles and dissolved mercury from dental vacuum systems; and,

WHEREAS, Advanced filtration equipment (ISO 11143 approved amalgam separators) have been tested by the American Dental Association in 2002 and have shown to remove greater than 95% of the amalgam particles; and

WHEREAS. The New England Governors and Eastern Canadian Premiers in 1998 agreed to a historic and landmark goal to ‘virtually eliminate” anthropogenic mercury releases.

Patient Notification; Mercury Amalgam. Beginning July 1, 2003, a dentist who uses mercury or a mercury amalgam in any dental procedure shall display the poster adopted by the Department of Human Services, Bureau of Health under this section in the public waiting area of that dentist's office and must provide each patient with a copy of the brochure adopted by the bureau under this section and shall discuss with the patient the choices of using non-mercury restorative dental materials prior to their use. 2. Rules. The Director of the Bureau of Health within the Department of Human Services shall develop a brochure that explains the potential advantages and disadvantages to oral health, overall human health and the environment of using mercury or mercury amalgam in dental procedures, including information discouraging the use of amalgams in pregnant women children, those patients with kidney problems, and children under the age of 6. The brochure must describe what alternatives are available to mercury amalgam in various dental procedures and what potential advantages and disadvantages are posed by the use of those alternatives. The brochure should also include other information that contributes to the patient's ability to make an informed decision when choosing between the use of mercury amalgam or an alternative material in a dental procedure, including, but not limited to, information on the durability, cost, aesthetic quality or other characteristics of the mercury amalgam and alternative materials. The director shall also develop a poster that informs patients of the availability of the brochure. The Director of the Bureau of Health shall, in consultation with the Department of Environmental Protection, adopt the brochure and the poster described in this subsection as major substantive rules pursuant to state law. The brochure and poster must be provisionally adopted and submitted to the Legislature for consideration and approval within 90 days of completion. Copies of the brochure and poster must be provided to dentists in the state at cost.

Mercury Amalgam; Disposal Ban, Discharge Limit and Recycling Requirement.

No person shall dispose of elemental mercury or dental mercury capsules, particles or dissolved matter other than by recycling, except where otherwise approved, with cause, by the environmental commissioner. (Note: Mean residual mercury per emptied amalgam capsule ranges from 0.125 to 1.255mg/capsules, while some have been documented as high as 33.89 mg/capsule.) Elemental mercury, including used dental amalgam capsules and dental mercury particles or dissolved matter may not be disposed in municipal solid waste, as a biomedical waste (except in cases where there is a potential presence of bacteria and/or pathogens) or as a hazardous waste (provided that the material is not destined for incineration or autoclave) or discharged in water, wastewater, wastewater treatment or waste water disposal systems, including septic systems. Dental offices are also required to limit their mercury discharges, whether to the Publicly Owned Treatment Works or to septic systems, to less than 0.01 mg/L.

Limitations on the use of elemental and pre-encapsulated mercury. No person may sell or provide elemental mercury or pre-encapsulated mercury for sale to another person or transport out of state for sale, except for recycling, without providing a material safety data sheet as defined in United States code, title 42, section 11049 and requiring the purchaser or recipient to sign a statement that the purchaser: (i) will use the mercury only for medical, dental amalgam, research or manufacturing purposes; (ii) understand that the mercury is toxic and that the purchaser will store and use it appropriately so that no person is exposed to the mercury; and (iii) will not place or allow anyone under the purchaser's control to place or cause to be placed the mercury in solid waste or in a wastewater or in a wastewater treatment and disposal system.

Discharge Management Rules. The department of environmental conservation shall establish a discharge limit rules for dental offices to limit mercury releases relative to 1) adherence to best management practices, 2) the use of chairside traps to capture and collect mercury; 3) the use of advanced filtration technology, ISO 11143 certified amalgam separators, which must be installed, used and maintained at each dental office that places or replaces amalgam fillings, to trap and recycle 99 percent of both the amalgam particles and dissolved mercury; 4) Used dental amalgam capsules generated from a dental facility must be recycled; 5) cleaning and replacing mercury laden pipes and plumbing fixtures; 6) enforcement and routine monitoring to assure amalgam separators are installed properly and are maintained to assure they are operating properly and 7) managing surplus quantities of dental or elemental mercury properly.

Septic System Study. The department of environmental conservation shall be responsible for conducting or overseeing a study to determine the environmental impacts and potential liability implications of dental mercury released into rural septic systems where municipal wastewater treatment facilities not available.

Dental Insurance Contracts and Provisions for Low-Income Population. State dental insurance contracts negotiated after 2004 shall provide equal coverage for non-mercury fillings at no additional expense. Such contracts shall provide low income populations with the ability to receive non-mercury fillings at no extra cost to the patient.

Dental Training Schools. Vocational dental education or training schools shall be required to develop and implement a plan approved by the environmental commissioner that best management practices are used to prevent discharge of mercury into the environment, and to provide for an educational program for dental students regarding the hazards of mercury and requirements to properly manage, trap and collect all waste dental mercury for recycling.

Annual Reporting Requirements for Dental Clinics. All dentists shall be required to submit to the department an annual report describing quantities of amalgam quantities purchased, used and recycled from the following two sources; dry sources (chairside traps, clean scrap, and elemental mercury) and wet sources (amalgam sludge and vacuum pump traps.)

Public education and outreach. The department of environmental conservation shall coordinate the development of a public education, outreach and assistance program to dentists throughout the state to discourage the environmental release and use of dental mercury wherever feasible.

Phase out of all mercury use by 2006. All mercury products use, including dental amalgam use, shall be phase out in the state by January 1, 2006. Two-year exemptions to this mercury phase out required may be granted in those cases where it is demonstrated that there are no known alternatives to the use of mercury.

Enforcement. The department of environmental conservation shall be responsible to ensure all dental clinics placing or removing amalgam fillings fully comply with the all the provision of this legislation, including but not limited to the issuance of fines for non-compliance with the regulations, or face fines ranging from \$10,000 to \$100,000 per day.

The bill is effective January 1, 2004.