WASHINGTON, DC, USA: Despite its known negative effects on the environment, tons of mercury derived from removed amalgam dental fillings end up in public wastewater systems in the US each year. New rules proposed by the Environmental Protection Agency (EPA) last week aim to reduce the threats posed by improper waste disposal by making it mandatory for dentists nationwide to employ amalgam separators, among other measures.

With the new regulations, which are part of the Clean Water Act, the agency hopes to decrease toxic metal discharges, including mercury, by at least 8.8 tons a year. In order to reduce the financial burden for states and localities, which would have to implement and oversee the new rules, EPA also announced initiatives to streamline oversight requirements of the dental industry. After submission to a public comment period and hearing in November, the rule is expected to become effective in September next year.

EPA estimates that up to 3.7 tons of mercury are released annually from dental offices in the US, which equals 50 per cent of the total mercury released by dentistry and other industries into the public wastewater system, according to the Zero Mercury Working Group in Vermont. While amalgam separators have been shown to be effective in the collection of the toxic metal before it is released, so far only 12 states, including New York and Massachusetts, have mandated their use in dental clinics. Under the new rules, dentists nationwide would be required to install and use these systems permanently for the very first time.

“This is a common sense rule that calls for capturing mercury at a relatively low cost before it is dispersed into the publicly owned treatment works. It would strengthen human health protection by requiring removals based on the technology and practices that approximately 40 per cent of dentists across the country already employ thanks to the American Dental Association [ADA] and our state and local partners,” commented Kenneth J. Kopocis, deputy assistant administrator for EPA’s Office of Water, in a press release.

The ADA has been recommending the use of separators for disposing dental amalgam through its best management practices guidelines since 2007. Reports show, however, that in states without mandatory use of the devices proper disposal of amalgam waste is still seriously lacking. Asked by Dental Tribune International to comment on the proposal, ADA officials would only say that it is currently being reviewed by their organisation to ensure that it will not place undue burden on the dental profession. Dental clinics that fully comply with the regulations will incur a cost of US$7000 a year, according to EPA.

While relatively harmless when used in dental fillings, mercury can become highly toxic when it reacts with specific aquatic microorganisms. This variant, known as methylmercury, accumulates in fish and fish-eating animals, posing serious health risks to humans when consumed. Among other conditions, research has linked it to cardiovascular disease and developmental deficits in children.