

Amalgam Separation in the Dental Industry—The Time Is Now

Michael Toole
Vice President of Sales and Marketing
Solmetex, LLC
Northborough, MA
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In the dental industry, there are very few subjects more polarizing than amalgam separators and amalgam waste. Which begs the question why?

Since the passing of the Clean Water Act in the 1970's, it has been the policy of the United States that "Pollution should be prevented or reduced at the source whenever feasible; pollution that cannot be prevented should be recycled in an environmentally safe manner"¹. As of January 2016, there are 12 statewide mandates and approximately 25 municipalities requiring dental offices to manage their amalgam waste. However, on December 16, 2016, the Environmental Protection Agency (EPA) announced a regulation requiring all 50 states be compliant to a new standard regarding amalgam waste. While some dentists believed the December regulation was just conjecture, the truth is that this has been a patient and methodical process from the EPA for the last 15 years.

History

In the late 90's, concerns of mercury levels in the environment came on the horizon by many organizations. The Quick Silver Caucus (QSC), was one of these organizations that lead the conversation and brought this issue to the forefront, and were instrumental in getting regulations passed in Canada, New England, New York and New Jersey.

The American Dental Association (ADA) has recognized the concerns of amalgam in the environment, however, it did not feel that a national regulation on amalgam waste was required and has been steadfast against any national regulation. In 2007, the ADA added amalgam waste to its list of Best Management Practices (BMP's) for dentists, however, 9 years later these BMP's still go widely ignored by dentists across the nation. While coal burning power plants are the number one contributor of mercury in the environment, dentist and amalgam waste are "by far" the largest contributors of mercury in the waste stream².

In 2010, the EPA proposed and drafted a nationwide regulation. This regulation was reviewed and debated for several years, and was reintroduced in September 2014. On December 16, 2016, the EPA signed a regulation titled "Effluent Limitations Guidelines and Standards for Dental Offices", commonly referred to as the Dental Amalgam Rule.

¹ Pollution Prevention act of 1990. Public Law 101-508

² Mercury Source Control & Pollution Prevention Program Evaluation; Association of Metropolitan Sewerage Agencies (AMSA) March 2002

³ 40 CFR Parts 403 and 441 [EPA-HQ-OW-2014-0693; RIN 2040-AF26 Effluent Limitations Guidelines and Standards for the Dental Category

Highlights from the Proposed Regulation:

Implementation Period:

- Existing dental practices will have 3 years to comply and install either a certified ANSI/ADA Standard No. 108 for Amalgam Separator, or a ISO 11143:2008 certified amalgam separator at a separation rate of 95%.
- New practices will have 30 days to comply and install an either a certified ANSI/ADA Standard No. 108 for Amalgam Separator, or a ISO 11143:2008 certified amalgam separator at a separation rate of 95%.
- Dental offices that currently have an amalgam separator installed will have 10 years to comply and ensure they have a ANSI/ADA Standard No. 108 for Amalgam Separator, or a ISO 11143:2008 certified amalgam separator at a separation rate of 95%.

Exemptions:

This rule applies to offices, including large institutions such as dental schools and clinics, where dentistry is practiced that discharge to a POTW. It does not apply to mobile units or offices where the practice of dentistry consists only of the following dental specialties: oral pathology, oral and maxillofacial radiology, oral and maxillofacial surgery, orthodontics, periodontics, or prosthodontics.

Change out:

- The regulation urges dental offices to follow manufacturer's guidelines when changing out their containers.
- Dental offices that discharge to POTWs that do not place or remove amalgam need only submit a certification.
- Dental offices that place or remove amalgam must operate and maintain an amalgam separator and must not discharge scrap amalgam or use certain kinds of line cleaners. They must also submit a compliance report.

While these reporting mechanisms will be required the details on how and when they are to be done is still to be determined and will mostly likely fall to the individual states and local water authorities.

Maintenance:

Each dental office will be responsible for implementing a BMP regarding amalgam waste within their practice.

While amalgam separators are the focus of the proposed regulation, the regulation is about responsible management of amalgam waste. This also includes the use of disposable chairside traps, contact and non-contact amalgam waste buckets for items that come in contact with amalgam.

Conclusion

Amalgam separation has been extremely effective in mandated states and municipalities as a way to reduce mercury from the waste streams. Now that the final rule has been signed, now is the time to understand how this effects your dental practice and start to implement a BMP plan in the practice.