



## Overview

New technology-based standards have been released by the EPA to reduce the discharge of mercury and other metals used by dental offices into publicly owned treatment works (POTWs, municipal sewage treatment plants).

## Where does dental mercury come from?

Mercury and other metals are present in dental amalgam, which is used by dental offices for fillings, and is the primary source of mercury discharges to POTWs. The discharge of these metals has the potential to be released into the environment.

The American Dental Association has recommended practices such as the use of **amalgam separators**. The new rule (40 CFR Parts 403 & 441) from the EPA has adopted these recommendations as standards which existing dental offices need to comply by 2020. Amalgam separators capture the amalgam before it is released, allowing it to be recycled. With an average annual cost of about \$800 per year per dental office, amalgam separators are relatively low-cost.

Additionally, the mercury is easier to remove when it is concentrated, rather than when it is released into sewers, and potentially into the water, land, or air.

This rule offers reduced reporting requirements for dental offices. As a result of compliance with this rule, the EPA anticipates the discharge of metals (half of which are mercury) to POTWs will be reduced by a minimum of 10.2 tons per year.

## Why does the dental industry need this rule?

Mercury, which is present in dental amalgam, can enter a dental office's wastewater stream when dentists place a new filling in a tooth, or when they remove old fillings.

When mercury is discharged to a POTW, it can then be released to the environment via surface water discharge, landfill disposal, incineration or land application of sludge.

After mercury is released into the environment, there are types of bacteria that can convert mercury into methylmercury, which is an extremely toxic form of mercury. Methylmercury can accumulate in the tissues of shellfish and fish, and when humans eat the shellfish or fish, they can be exposed to toxic methylmercury. This is the primary method of human exposure to methylmercury.

As a potent neurotoxin, mercury can lead to a wide variety of adverse health effects, and its effects are of concern on a global state.

## Why does the dental industry need this rule?

Any dental practice that discharges to a POTW will be affected by this rule. This included dental offices, clinics, and schools. Mobile units are exempt from this rule.



Also exempt are offices where the dental practice is limited to the following dental specialties:

- Oral and Maxillofacial Surgery
- Oral and Maxillofacial Radiology
- Oral Pathology
- Orthodontics
- Prosthodontics
- Periodontics

### **Will this be required of dental offices as a result of this rule?**

If a dental office places or removes dental amalgam, they must install, operate and maintain an amalgam separator. They may not discharge any scrap amalgam, nor may they use certain types of line cleaners, such as acidic or oxidizing line cleaners, including bleach, chlorine, peroxide and iodine. Additionally, they will need to submit a **one-time compliance report**.

If a dental office discharges to a POTW, but does **not** place or remove dental amalgam, a **one-time certification** must be submitted.

### **When are deadlines for compliance with this rule?**

**Existing sources** (dental dischargers that were discharging into POTWs **before** July 14, 2017) must come into compliance by **July 14, 2020**. The one-time compliance report must be submitted by October 12, 2020.

If an existing source transfers ownership **before** July 15, 2020, a one-time compliance report must be submitted by October 12, 2020. If an existing source transfers ownership **after** July 15, 2020, a one-time compliance report must be submitted within 90 days of the transfer.

**New sources** (dental dischargers whose first discharge to a POTW will occur **after** July 14, 2017) must immediately come into compliance with the rule **before their first discharge**. The one-time compliance report must be submitted within 90 days of their first discharge.

If a new source transfers ownership, a new one-time compliance report must be submitted by the new owner within 90 days of the transfer.

### **Where can I find more information on the standards, compliance and reporting?**

The Federal Register notice and additional FAQs are available on the EPA's Dental Effluent Guidelines website, found at: <https://www.epa.gov/eg/dental-effluent-guidelines>

