



Implementation of Dental Amalgam Standard (40 CFR 441) in Ohio

U.S. EPA recently finalized technology-based pretreatment standards under the Clean Water Act to reduce mercury discharged to municipal sewage treatment plants. This fact sheet serves as a guide for dental dischargers and municipal sewage treatment plants.

U.S. EPA finalized technology-based pretreatment standards under the Clean Water Act to reduce discharges of mercury and other metals from dental offices into municipal sewage treatment plants known as publicly owned treatment works (POTWs). Dental offices, which discharge mercury and other metals present in amalgam used for fillings, are a significant source of mercury discharges to POTWs; these metals are subsequently released to the environment.

The rule requires dental offices to comply with requirements based on the American Dental Association's recommended practices, including the use of amalgam separators. Once captured by the separator, dental amalgam can be recycled. Removing mercury when it is concentrated and easy to manage, such as through low-cost amalgam separators at dental offices (average annual cost per dental office in 2016 is about \$800), is a common-sense solution to managing mercury that would otherwise be released to air, land and water. You can find this rule and supporting documents at U.S. EPA's website: epa.gov/eg/dental-effluent-guidelines.

Who does this rule affect?

This rule applies to offices where dentistry is practiced, including large institutions such as dental schools and clinics, that discharge to a POTW. In addition, POTWs with an approved pretreatment program are required to enforce this rule. This rule does not affect POTWs without an approved pretreatment program.

This rule does not apply to mobile units, offices which do not discharge to a POTW, 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. No action is required from offices which are exempt from this rule.

What does this rule require of dental offices that place and/or remove amalgam?

Dental offices that place and/or remove dental amalgam are required to install an amalgam separator or equivalent device, implement best management practices, submit a One-Time Compliance Report, and retain records.

Installation of Amalgam Separators or Equivalent Device

Dental offices that place and/or remove amalgam are required to install an amalgam separator or an equivalent device. All amalgam separators installed after June 14, 2017, shall be sized to accommodate the maximum discharge rate of amalgam process wastewater and be compliant with:

- the American National Standards Institute (ANSI) American National Standard/American Dental Association (ADA) Specification 108 for Amalgam Separators (2009) with Technical Addendum (2011); or
- the International Organization for Standardization (ISO) 11143 Standard (2008) or subsequent versions so long as that version requires amalgam separators to achieve at least a 95 percent removal efficiency.
 - Compliance with the 95 percent removal efficiency must be assessed by a laboratory that meets the requirements in 40 CFR 441.30(a)(1)(i).

All amalgam separators installed on or prior to June 14, 2017 shall be replaced with an amalgam separator that meets these requirements by June 14, 2027, or when the amalgam separator breaks down, whichever comes first.

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Dental dischargers have the option of installing equivalent devices instead of amalgam separators. The amalgam removal device must meet the following requirements:

- Removal efficiency of at least 95 percent of the mass of solids from all amalgam process wastewater. The removal efficiency must be calculated according to 40 CFR 441.30(a)(2)(i-ii).
- The device(s) must be sized to accommodate the maximum discharge rate of amalgam process wastewater.
- The demonstration of the device's removal efficiency and sizing must be documented in the One-Time Compliance Report.

The dental discharger must operate and maintain the unit regardless of whether the amalgam is removed through an amalgam separator or an equivalent device. These operation and maintenance activities include but are not limited to:

- inspections in accordance with the manufacturer's operating manual to ensure proper operation and maintenance of the unit(s) and to confirm that all amalgam process wastewater is flowing through the amalgam retain portion of the unit(s);
- in the event a unit is not functioning properly, the unit must be repaired consistent with manufacturer instructions or replaced with a unit that meets the design specifications (described above) as soon as possible, but no later than 10 business days after the malfunction is discovered by the dental discharger, or an agent or representative of the dental discharger; and
- unit replacements in accordance with the manufacturer's schedule as specified in the manufacturer's operating manual or when the unit has reached the maximum level at which, as specified in the operating manual, the amalgam separator can perform to the specified efficiency, whichever comes first.

Best Management Practices (BMPs)

The following best management practices must also be implemented.

- Waste amalgam including, but not limited to, dental amalgam from chair-side traps, screens, vacuum pump filters, dental tools, cuspidors, or collection devices, must not be discharged to a POTW.
- Dental unit water lines, chair-side traps and vacuum lines that discharge amalgam process wastewater to a POTW must not be cleaned with oxidizing or acidic cleaners, including but not limited to bleach, chlorine, iodine and peroxide that have a pH lower than six or greater than eight. Such line cleaners are prohibited because they may lead to the dissolution of solid mercury when cleaning chair-side traps and vacuum lines.

One-Time Compliance Report (OTC Report)

The dental office must also submit a OTC Report, available at epa.ohio.gov/dsw/pretreatment/index.aspx. If a dental discharger transfers ownership of the facility, the new owner must submit a new OTC Report no later than 90 days after the transfer regardless of whether the dental discharger places or removes amalgam.

If the receiving POTW has an approved pretreatment program, the dental discharger must submit the OTC Report to the local sewer authority. If your facility discharges to a POTW on the list of approved pretreatment programs at epa.ohio.gov/dsw/pretreatment/index.aspx, contact them directly for applicable forms and instructions. Dental dischargers that discharge to a POTW without an approved pretreatment program must submit the OTC Report to Ohio EPA.

Records Retention

Dental dischargers, or their agent or representative, must maintain the OTC Report and the manufacturer's operating manual for the current device(s) and have it available for inspection in either physical or electronic form as long as it is subject to the rule or until ownership is transferred. In addition to the OTC Report, the following information must be maintained for inspection in either physical or electronic form for a minimum of three years:

- Documentation of the date, person(s) conducting the inspection, and results of each inspection of the amalgam separator(s) or equivalent device(s), and a summary of follow-up actions, if needed.
- Documentation of amalgam retaining container or equivalent container replacement (including the date, as applicable).
- Documentation of all dates that collected dental amalgam is picked up or shipped for proper disposal in accordance with 40 CFR 261.5(g)(3), and the name of the permitted or licensed treatment, storage or disposal facility receiving the amalgam retaining containers.
- Documentation of any repair or replacement of an amalgam separator or equivalent device, including the date, person(s) making the repair or replacement, and a description of the repair or replacement (including make and model).

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What does this rule require of dental offices that DO NOT place and/or remove amalgam?

Dental offices that do not place and/or remove amalgam are only required to submit an OTC Report available online at epa.ohio.gov/dsw/pretreatment/index.aspx. The dental office must maintain a copy of this report for the duration which the owner continues ownership.

What does this rule require of POTWs?

POTWs with an approved pretreatment program must communicate with regulated facilities, enforce this rule and develop, distribute and collect the OTC Reports. This rule does not recognize dental dischargers as Significant Industrial Users or Categorical Industrial Users, as defined in Ohio Administrative Code (OAC) 3745-3-01. Therefore, POTWs are not required to conduct monitoring, issue permits to or inspect dental offices. However, the rule recognizes the approved pretreatment program's discretionary authority to enforce more stringent activities than what is required in the rule. For POTWs without an approved pretreatment program, no action is required by this rule.

When does this rule become effective?

This standard was published in the Federal Register on June 14, 2017 and became effective July 14, 2017. Any dental discharger that begins discharging after July 14, 2017 is considered a new source and must comply with the rules upon discharging and submit the required OTC Report within 90 days.

Any source discharging on or before the effective date of the rule is considered an existing source and must comply with the rules by July 14, 2020, and submit the required OTC Report by Oct. 12, 2020. If a dental facility installed an amalgam separator which does not meet the standards specified in the rule prior to June 14, 2017, then it satisfies the requirements of the rule until the existing separator is replaced or until June 14, 2027, whichever is sooner. Note that POTWs with an approved pretreatment program have discretionary authority to enforce more stringent requirements (including earlier deadlines) than those specified in the rule. If your dental office discharges to a POTW with an approved pretreatment program, contact them directly for requirements, applicable forms and instructions.

Contact

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