IMPACTS OF NEW EPA DENTAL AMALGAM RULE ON MICHIGAN POTWS

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NEW EPA AMALGAM SEPARATOR RULE

New technology-based pretreatment standards to reduce discharges of mercury from dental offices into POTWS.

Requires dental offices to use amalgam separators, follow BMPs, and submit one-time certification/compliance reports.
RECAP...

Dentists discharge approx 10.2 tons of metal per year to POTWs – 5.1 tons is mercury. As much as 50% of the mercury entering POTWs is contributed by dental offices.
IMPACTS AT POTW

Physical POTW processes remove about 90% of mercury. Mercury removed ends up in POTW biosolids.
IMPACTS AT POTW

Mercury not removed discharged by POTW to receiving stream.

May cause POTW to violate NPDES mercury discharge limit.
POTW RESPONSES

Require amalgam separators.
Require implementation of BMPs.
Implement numeric limits in permits (before Act 503).
MI ACT 503 (2008)

Dental offices must install separators by 12/31/13.

Separators must remove at least 95% per ISO 11143:2008 Dental Equipment — Amalgam Separators.
Installation, operation, maintenance, sizing, certification, and testing requirements for separators.

Requires BMPs for collection, disposal, and recycling of dental amalgam waste.

Records retention/inspection requirements.

Verification of compliance on license renewal.

Sanctions for noncompliance.
PREEMPTION

Act 503 expressly preempts and supersedes any conflicting, different, or additional standards or requirements on dentists than those contained in the Act or the Rules.

Expressly prohibits:

Requiring a dentist to obtain a permit that limits the discharge of mercury into wastewater with a limitation greater than that capable of being achieved by full compliance with Act 503.
POTWS CAN...

Can adopt ordinance that mirrors Act 503/Rules.

Can issue permits to dentists requiring compliance with ordinance that mirrors Act 503/Rules.

But:

Cannot require dentists to comply with numeric local limit for mercury.
CIUS, SIUS, AND DIUS. OH MY!

Previously proposed Federal Rules:
CIUs, SIUs, and DIUs
Administered/Enforced by POTWs
Lots of extra POTW burdens
NEW EPA DENTAL AMALGAM RULES


Dental dischargers ≠ CIUs or SIUs, unless POTW designates.

Administrative and oversight burden reduced for POTWs.
WHO SUBJECT TO RULE?

Dental Discharger: A facility where the practice of dentistry is performed that discharges wastewater to a POTW, including, but not limited to, institutions, permanent or temporary offices, clinics, home offices, and facilities owned and operated by Federal, state or local governments.
WHO SUBJECT TO RULE?

Unlike Michigan/Act 503, applies to discharges from dental schools, hospitals, health department clinics, etc.
WHO NOT SUBJECT TO RULE?

Does not apply to dental dischargers that exclusively practice one or more of the following dental specialties: oral pathology, oral and maxillofacial radiology, oral and maxillofacial surgery, orthodontics, periodontics, or prosthodontics. (Same as Act 503.)
WHO NOT SUBJECT TO RULE?

Does **not** apply to dental dischargers that certify to the POTW that they do not place dental amalgam, and do not remove amalgam except in limited emergency or unplanned, unanticipated circumstances (less than 5%).
WHO NOT SUBJECT TO RULE?

Does not apply to wastewater discharges from a mobile unit operated by a dental discharger.

Does not apply to dental dischargers that do not discharge any amalgam process wastewater to a POTW (such as to a holding tank).

Unlike Michigan, it does not apply to dentists that discharge to a septic system.
WHAT DOES RULE REQUIRE?

Install approved separator (or other device):

95% total solids removal efficiency.

Must be properly sized, inspected, replaced, etc.
WHAT DOES RULE REQUIRE?

Also, implementation of two BMPs:
Waste amalgam must not be discharged to POTW.

Lines, traps, etc. must not be cleaned with oxidizing/acidic cleaners with pH lower than 6/greater than 8 (no bleach, chlorine, iodine, peroxide, etc).
REPORTING & RECORDKEEPING

Normally applicable reporting requirements under 40 CFR 403 (baseline, periodic compliance, etc.) do not apply.

Instead, one-time compliance report submitted by dentist to POTW.

Must include certification that either complying with separator and BMP requirements; or not using amalgam.
REPORTING & RECORDKEEPING

Required documentation must be maintained (physical or electronic) for inspection by POTW for at least 3 years.

Maintenance records can be prepared by suppliers/manufacturers.
WHEN COMPLIANCE REQUIRED?

Existing: Within 3 years after effective date of rule; or 90 days after transfer.

Dentists with separators as of effective date, grandfathered for 10 years or replacement, whichever sooner.

New: After effective date, must comply with requirements as soon as commence discharge; and submit compliance report within 90 days.
Act 503 and the Federal Rule are similar, but there are differences. Most of the differences may be of more significance to dentists than POTWs. Of most importance to POTWs: One-time compliance report requirements and POTW oversight of Federal program.
ACT 503 NOT PREEMPTED

The federal amalgam rule does not preempt or supersede Act 503.

Federal rule forms the minimum requirements for all dental discharges, regardless of other state/local requirements.

Federal rule applies to all dental discharges to POTW, whether or not an IPP is required.
REQUIRED POTW ACTIONS?

POTWs responsible for oversight and administration of the federal amalgam rule, just like any other pretreatment standards.

Dental dischargers may be treated just like any other nondomestic user that is not CIU/SIU.
WHAT’S IN YOUR IPP TOOLBOX?

How federal rule addressed in SUO can vary depending on POTW’s particular circumstances or IPP philosophy (proactive, etc.).

With appropriate SUO provisions, POTW authority more flexible, expansive, and clear.
EPA:

Rule will annually reduce discharge of mercury by 5.1 tons per year, plus 5.3 tons of other metals found in amalgam.

Total annual cost for dental office to provide separator: $800 each.

Total annual cost of final rule for all: Approximately $60 million nationwide.
FURTHER INFORMATION

The pre-publication final rule and a fact sheet can be found here:
https://www.epa.gov/eg/dental-effluent-guidelines-documents
QUESTIONS?

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