



## **Best Management Practice (BMP) Program for Amalgam Waste**

### **City of Tulsa Quality Assurance Section Amalgam Waste Prevention Program**

**April 13, 2018**

#### **I. Introduction**

This **Best Management Practice (BMP) program** for amalgam is designed to help Dental Facilities comply with Federal, State, and Local environmental regulations, specifically, the City of Tulsa's Ordinance #22851 by assisting dental offices in the proper management of mercury and amalgam waste in their day-to-day activities. It contains required as well as recommended operating procedures and guidelines for reducing the amount of mercury discharged to the City of Tulsa sanitary sewer system, a publicly owned treatment works (POTW). This program attempts to do this with the least burden to the business. Proper implementation of these procedures is intended to protect Tulsa's natural environment from the discharge of hazardous mercury containing compounds.

#### **II. Definitions**

The definitions listed in this section apply throughout this document.

1. **Amalgam capture device**- An apparatus such as a chair side trap, vacuum pump filter or amalgam separator that collects amalgam particles.
2. **Amalgam sludge**- A mixtures of liquid and solid material that collects within vacuum pump filters, amalgam separators or other amalgam capture devices that may be used.
3. **Authorized Representative** – The president, secretary, treasurer, or a vice-president of the corporation; the general manager of the facility, a general

partner, a director or highest official appointed or designated to oversee the operation (if a public agency).

4. **Contact amalgam-** Amalgam that has been in contact with the patient. Examples are extracted teeth with amalgam restorations, carving scrap collected at chair side, and amalgam captured by chair side traps, filters, or screens.
5. **Dental Best Management Practices-** A series of amalgam waste handling and disposal practices that include, but are not limited to, initiating bulk mercury collection programs, using chair side traps, amalgam separators compliant with ISO 11143 and vacuum collection, inspecting and cleaning traps, and recycling or using a commercial waste disposal service to dispose of the amalgam collected.
6. **Empty amalgam capsules-** The individually dosed containers left over after mixing pre-capsulated dental amalgam.
7. **Non-contact amalgam (scrap)-** Excess mix leftover at the end of a dental procedure.
8. **Pollution Prevention** - Any practice that reduces or eliminates waste at the source.
9. **POTW (Publicly Owned Treatment Works)** - A wastewater treatment facility and underground collection system owned by the public (municipality or service authority).
10. **Sanitary Sewer** - An underground conduit for carrying wastewater to a POTW.

### III. Required BMPs

- Install and properly maintain a City approved amalgam separator meeting ISO 11143 certification. The amalgam separator must achieve a minimum of 99 percent removal efficiency of dental amalgam, by weight, in accordance with ISO 11143 test procedures, as verified by an ISO-certified testing laboratory.
- Amalgam separators in service at dental facilities prior to the June 14, 2017, must be certified to achieve a minimum 95 percent removal efficiency of dental amalgam, by weight, in accordance with ISO 11143 test procedures as verified by an ISO-certified testing laboratory. Existing facilities meeting this 95% standard shall be required to upgrade to a City approved unit when any modification is made to the vacuum system, the number of operatories served changes, or when the existing amalgam separator must be replaced.
- Amalgam separators shall:
  - I. Be suitably sized per the manufacturer's minimum specifications and serve all operatories connected to the vacuum system.
  - II. Be installed in accordance with applicable State or local codes.
  - III. Be installed prior to the vacuum pump system (wet or dry).
  - IV. Be inspected weekly for collection system fill volume with results recorded.
- Maintain the amalgam separator in accordance with manufacturer requirements. Replace separator filter cartridges or collection system reservoir as required by the manufacturer recommendations but not less than once per year unless otherwise approved by the City.
- 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 6 or greater than 8.
- All maintenance and inspection records for the amalgam separator shall be retained for 3 years and be made available to the City inspector upon requests.

### IV. Recommended BMPs

- Limit the amount of amalgam to the smallest appropriate size for each restoration. Use only pre-capsulated dental amalgam.

- Eliminate all use of bulk mercury. Any unused bulk elemental mercury must be recycled or handled as hazardous waste. It must never be poured in the regular trash, infection waste (red bag), or down the drain.
- Change or clean chair-side amalgam traps as needed or as recommended by the manufacturer. Do not rinse amalgam traps over drains or sinks. Consider dedicating specific chairs to amalgam placement and removal to minimize the number of amalgam-containing traps that need to be managed (traps associated only with hygiene chairs can be disposed of in the regular trash).
- Change vacuum pump filters as needed or as recommended by the manufacturer. This action will also improve suction and extend the life of the vacuum pump.
- All amalgam waste must be handled by a hazardous waste management company for recycling or disposal as hazardous waste: Non-contact amalgam (scrap); Contact amalgam (amalgam removed from patients and extracted teeth containing amalgam); Leaking or unusable amalgam capsules; Amalgam waste must never be put in the regular trash, put in with infectious waste (red bag), or flushed down the drain. Chair-side traps or vacuum pump filters containing amalgam must never be rinsed over drains or sinks. Empty amalgam capsules can be placed in the regular trash.
- Store amalgam waste as directed by your hazardous waste management contractor. This typically includes being in covered, segregated, and clearly labeled airtight plastic containers. Check with you contractor for any other specific requirements such as disinfection steps or necessary dry storage.
- Retain amalgam waste disposal/recycling records provided by your contractor. Documentation of all amalgam waste recycling and disposal must be obtained from your recycler or hazardous waste hauler, kept on file, and made available to a City inspector upon request.