



State of California—Health and Human Services Agency
Department of Health Services



ARNOLD SCHWARZENEGGER
Governor

February 2, 2005

To: All Medical Waste Generators and Offsite Treatment Facilities

Subject: Steam Sterilization of Suction Canisters

The Department of Health Services (Department) has recently been involved in an evaluation of the efficacy of the treatment of suction canister waste by steam sterilization. The results of that evaluation suggest that in certain circumstances, suction canister waste may not be adequately treated by steam sterilization. Per the Medical Waste Management Act, Chapter 8, Section 118215 (a)(2)(D) treatment of waste must be demonstrated using a biological indicator. The law states that the indicator must be placed in the center of the waste load. Due to the density of filled waste canisters, the center of the load should be considered the center of a filled canister surrounded by waste if such containers are routinely part of waste loads.

The Department views the results from this initial evaluation as preliminary and further investigation, including testing, is necessary to allow for any definitive conclusions regarding steam sterilization treatment of this waste stream. Treatment systems that include a grinding component that destroys the suction canister and exposes a greater waste surface area for treatment appear to adequately sterilize the waste even if solidified. Sterilization also appears to be complete when un-solidified waste is in a suction canister made of a material that does not withstand the temperature conditions under which an autoclave is typically operated.

Based on the preliminary testing performed on surrogate suction canister waste, it appears that the addition of solidifiers to the liquid waste present in the suction canister prevents or inhibits the resulting solidified waste from reaching optimum temperatures that ensure adequate sterilization. Therefore it is inappropriate for solidified suction canisters to be treated by steam sterilization. The options for this waste stream would include treatment by incineration, extreme heat treatment systems such as pyrolysis and plasma arc technologies or systems that include grinding of the waste as part of the treatment technology.

Due to waste management controls in place, the Department believes that, even in those cases where the treatment of the contents of the suction canisters may be incomplete, the risk to the general public is minimal. However, facilities must review their waste treatment and quality control procedures, including the proper use of spore

testing and the placement of such controls in the waste stream, to ensure that all wastes are treated adequately. Information must be provided to the Department to demonstrate that suction canister waste is being properly treated. Any entity performing treatment of medical waste must submit proof that the waste is being properly treated. For onsite treatment facilities this demonstration may include testing using proper spore media or putting procedures into place such as; removing the canisters from autoclaving, using canisters that do not withstand autoclave temperature conditions, installing an engineered system that eliminates the need to dispose of filled canisters in the medical waste stream, etc. For offsite treatment facilities using steam sterilization without a grinding function, testing using proper spore media will be required unless procedural changes are put into place to eliminate all suction canisters from the autoclave waste stream. A testing procedure is attached as an example.

Information demonstrating adequate treatment of suction canister waste must be submitted to the Medical Waste Management Program within forty-five (45) days of the date of this letter.

Should you have any questions, you may contact Ron Pilorin at 449-5689 or via e-mail at rpilorin@dhs.ca.gov.

Sincerely,

Darice G. Bailey, Chief
Waste Management Section

Attachment

ATTACHMENT

**Example Quality Assurance / Quality Control Procedure
For
Demonstrating Efficacious Treatment of Suction Canister Waste
By
Steam Sterilization**

The following is an example quality assurance / quality control (QA/QC) procedure one might incorporate within their operations plan to ensure that suction canister waste (medical waste) has been adequately treated by steam sterilization as required under Health and Safety Code, Section 118215(a)(2)(D).

1. Obtain a clean / unused suction canister which represents the type used in the facility. If more than one type of suction canister is used in the facility, obtain a sample of each.
2. Fill each clean / unused suction canister(s) at least half full with normal saline or other matrix (i.e., equal parts saline and serum / albumin) which represents the waste typically generated at the facility. This will be the QA/QC sample for the treatment cycle.
3. Using the biological indicator *Geobacillus stearothermophilus* (formerly *Bacillus stearothermophilus*) that are commercially available on strips contained in glassine envelopes, place spore strips in the center of the filled suction canister(s).
4. Place the filled suction canister(s) containing the biological indicator *Geobacillus stearothermophilus* into the middle / center of the waste load and operate the autoclave according to standard operating procedures.
5. Once the autoclave completes its operating cycle, retrieve the glassine envelope(s) containing the biological indicator from the suction canister(s) used as the QA/AC sample(s) and submit to the laboratory to confirm that efficacious treatment has occurred.