

SOP for Autoclaving Biotechnology By-Product Effluents (e.g. rDNA) at BL1 or BL2

Effectiveness:

Autoclaving is an effective means of sterilizing some liquid waste. Sterilization refers to the complete killing of all living organisms, including spores. The autoclave is periodically validated for effectiveness by using a biological indicator, e.g. *Geobacillus sterothermophilus* spores.

Procedure:

Collect liquid waste in autoclavable, leak proof containers that are never more than $\frac{3}{4}$ full.

Place containers in an autoclavable tray in the autoclave. LOOSEN each container top and place indicator tape on each top.

Adequate cycle time varies depending on load, type of autoclave, and secondary containment. Based on spore testing, determine the appropriate cycle time to sterilize liquid waste for your autoclave. Typical cycle times for sterilizing liquid waste range from 45 to 90 minutes at 250°F.

Autoclave temperature should be 250°F (121°C) and autoclave pressure should be 15 psi.

Pour sterilized liquid waste down the sink and flush the drain with water.

Following this SOP will meet the requirements in 105 CMR 480.200 (F) for drain disposal of BL1 and BL2 liquid waste.

Other Notes:

- Each load or cycle must be evaluated by recording thermometer, thermocouple, parametric monitoring device or thermal indicator strip
- Autoclaves must be calibrated annually
- Quarterly qualitative biological challenge testing [Science Center conducts monthly testing during the school year].