

Standard Operating Procedure

SOP085

Title: Use and Maintenance of Sonicating Water baths

Location: CBE laboratories.

1. PURPOSE

The intent of this SOP is to describe the use and maintenance of the Sonicating Water baths within the CBE laboratories.

2. SCOPE

The scope of this SOP is to outline the use and maintenance of the sonicating water bath. The sonicating water baths use sound waves to agitate particles in a solution. For the purpose of this SOP the sonicating water baths can be used to disrupt or deactivate biological materials (e.g. to disrupt cell membranes and release cellular components into solution for further analysis), to degas liquids or to clean compatible containers or equipment.

3. References

1. Operating Instruction Manual
2. SOP003; Disposal of Biological Waste
3. SOP038; Biological Spill Response
4. SOP037; Use of personal protective equipment.

4. Special Notes: Health & Safety

1. Always wear appropriate PPE when working with the water bath.
2. Do not place hands and fingers in the bath when the machine is in use.
3. Ear protection in the form of disposable ear plugs should be used by everyone present in the room when the sonicating water bath is in use.

5. RESPONSIBILITES

CBE Laboratory Users

- All users who operate the water bath are responsible for the proper operation of the instrument as outlined in this document and the operating manual.
- The responsible person shall coordinate the scheduling of service and preventative maintenance with authorized service representatives.
- All users who operate the water bath are responsible for reporting any leakages/spillages of sonicated material to the laboratory manager and/or area safety advisor.

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Written by: E.Rayment	Reviewed by: P. Hourd	Approved by: R. I Temple
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6. EQUIPMENT AND MATERIALS

- Sonicating Water Bath
- 1% virkon solution
- Virkon tablets
- 1in 50 Chemgene
- Detergent solution- Ultraclean M2 (Ultrawave)
- Disposable Ear Plugs

7. PROCEDURE

7.1 Operation

Note; New users should refer to the Ultrawave operating manual for detailed guidance.

1. Pour cold tap water into the bath so that it is at least $\frac{3}{4}$ full, so that the fluid level reaches the lip of the tank.
Note: If the Sonicating Water Bath is to be used for cleaning purposes, add 10ml of Ultraclean M2 detergent to the water bath.
2. Turn the machine on by turning the timer dial to the required time and press the SONICS button.
3. Once switched on, allow the water in the sonicating water to degas by running the machine for 10 minutes without any samples present. The water is fully degassed when bubbles can no longer be seen rising to the surface.
4. Place any items requiring sonication in closed plastic microcentrifuge tubes or closed plastic falcon tubes first to ensure containment of materials, then into the metal basket provided with the machine, never let them sit on the floor of the bath. These tubes can then be put into a float aid in containment, as long as all material requiring sonication is submerged in the water.

Caution: Glass vessels or containers should not be used in the Sonicating Water Bath.

5. At the end of the cycle remove the basket from the bath and rinse any items under clean running water.
6. The lid can then be inverted, and the basket placed on top to catch excess fluid as the items dry.

Note: Some of the Sonicating Water Baths have timers and can also be heated. See User's manual for instructions on how to use.

7.2 Spill Response

If a spillage or leakage occurs into the water bath from sonicated containers the user must refer to the procedure for confined biological spillage described in SOP038: Biological spill response.

If contamination is identified whilst the water bath is operational, disconnect the water bath from the mains. **Adopt the following procedure**

1. Put on clean disposable gloves. Face protection maybe required.

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2. Move the water bath to the BSC
3. Carefully retrieve any damaged/leaking tubes with forceps or other mechanical means and place in a sharps container or an orange biohazard bag.
4. Unbroken, sealed tubes maybe recovered and wiped down with 1%virkon solution.
5. Carefully pour the contaminated water into a secondary container and add the appropriate number of virkon tablets, and dispose of as liquid waste according to SOP003; Disposal of Biological Waste.
6. Remove the mesh and racks and soak in 1%virkon for 10 minutes. Thoroughly rinse with detergent or water and wipe down with 70% IMS.

Caution: Do not expose metal parts to virkon for more than 10 minutes.

7. Spray the interior of the water bath with 1% virkon solution and wipe down the inside of the water bath with paper towels. Thoroughly rinse with detergent or water and wipe down with 70% IMS.

Caution: Limit contact time to 10 minutes

Note: Do not steam sterilise material wetted with virkon, place in a yellow stream bag.

8. Replace mesh and racks.
9. Remove all contaminated PPE and clothing upon leaving the work area. Place all reusable contaminated PPE into an autoclave bag for decontamination. Place non-reusable items into the orange stream waste, if covered with virkon, then into the yellow stream waste.
10. Wash hands and other potentially contaminated areas with soap and water.
11. Inform lab staff when clean up is completed.

7.3 Cleaning the Water Bath.

Following each use:

- Disconnect the Sonicating Water bath from the mains before cleaning.
- Clean the case of the water bath with a damp cloth or tissue soaked in Ultraclean detergent or water.
- Remove the mesh and racks from the water bath and clean with ultra clean detergent or water and rinse thoroughly.
- Pour the water from the Water bath into the sink and clean the inside of the water bath with ultraclean detergent or water by lightly brushing debris from sides and the lid of the water bath with a brush. Rinse thoroughly with tap water.
- Replace mesh and racks.

7.4. Equipment Malfunction.

- The laboratory manager or responsible person should be informed in any part of the equipment fails or malfunctions. With permission the user should consult the Operating Instruction Manual for fault finding and trouble shooting procedures.
- If the equipment fails to work or malfunctions and cannot be rectified according to the troubleshooting procedures detailed in the Manuals the following should be observed.
 1. Inform the Responsible person
 2. Attach a "Do Not Use" notice.

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3. Contact the manufacturer for advice. External maintenance and servicing can only be performed after the water bath has been suitably decontaminated and a Decontamination Certificate has been issued.

8. DOCUMENTATION

- 1) QS-FORM-009 Decontamination of equipment Certificate- Found on the CBE Learn page.
- 2) Equipment Maintenance Record Log

SOP Version History

Version Reviewed	Date Revised/ Reviewed	Revision Summary	New Version Number
001	20/08/2020 J. Bowdrey	Review and update. Addition of heated and timer operated Water baths.	002

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