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Title: Use and Maintenance of the USC300T Ultrasonic Bath

Version: v2

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SOP History		
Number	Date	Reason for Change
v1	01/01/2013	Original
V2	01/01/2018	Update

1.0 Purpose –

The purpose of this SOP is to outline the principles of the routine use and maintenance of the USC300T Ultrasonic Bath in Laboratory 248 at the St Andrews School of Medicine (SASoM).

2.0 Scope –

This SOP applies to routine use and maintenance of the USC300T Ultrasonic Bath within the SASoM.

3.0 Responsibilities –

It is the responsibility of all users of the USC300T Ultrasonic Bath within the SASoM to comply with this SOP.

4.0 Procedure –

Principles of Operation:

Ultrasound is used widely for removing dirt and contamination from all forms of hard surfaces, such as metals, plastics and ceramics. Its unique properties can be harnessed to clean items of all shapes, sizes and technical complexity, penetrating holes and cavities that are impossible to reach using ordinary cleaning methods.

Piezo electric transducers are attached to the cleaning tank. They generate ultrasound waves that vibrate the cleaning fluid at very high velocity, creating a process called



cavitation. Millions of tiny bubbles implode within the solution and penetrate into every orifice of the item being cleaned, removing dirt and grime within seconds.

Operation:

Make up ample 'Micro-90 Cleaning Solution' (1%) by adding 20mL of concentrate to 2L of distilled water. Fill the bath with detergent to the line approximately 2-3cm from the top, **ensuring that it is approx 7/8 full at all times.**

Immerse items in the bath at least 20 mm from the floor of the bath. Items to be cleaned must not be placed directly on the bottom of the tank but rather held within the cleaning basket.

Set operating time from 1 to 30 minutes (10 minutes is probably sufficient), or continuous operation. For times below 2 minutes, set the time switch to a longer time interval and then turn back to the desired operating time - this is due to the design of the timer switch.

Switch on the ultrasound using the on/off switch on the right hand side of the bath. A green LED is lit during operation and undulations on the surface of the fluid can be visually seen.

After cleaning, remove the items from the bath. Over time the bath temperature will increase and the water may be hot. Use thermal gloves if necessary.

Items should be rinsed in distilled water (followed by 70% ETOH if necessary) before being air dried.

Never put your hands in the tank when the ultrasound is switched on.

5.0 Personal protection -

Howie coat must be worn at all times.

Gloves as specified in the appropriate COSHH RA

6.0 Spillages -

Always clean up any spills immediately after use.

Only you know what you have spilt and are aware of that chemicals hazard.

Mop up spills with paper towels. Wash the site of spillage with water & detergent.



7.0 General maintenance -

Discard cleaning fluid after use since cleaning efficiency becomes weaker from use or if the water becomes dirty. Rinse bath out with water and allow to dry.

Keep clean. Wipe with a damp cloth to remove any cleaning residues.

Check for scratching on the floor of tank.

8.0 Training -

All users have to be trained before using the Instrument by a designated person.

9.0 Related documents –

- 9.1 Equipment manual
- 9.2 Equipment Maintenance Information sheet
- 9.3 Risk assessments – RA/GEN/008

10.0 Approval and sign off –

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