**Purpose**

To describe the steps for quality control and the schedule for preventive maintenance for the Helmer Quickthaw System.

**Required Materials**

* Helmer Cleanbath (Benzalkonium Chloride 50% solution)
* Drain and fill tubing
* Soft cloth or sponge
* Mild detergent or TB quant
* Light duty oil (WD-40)

**Limitations and Precautions**

* Helmer Cleanbath is a combustible liquid that can cause severe skin and eye damage, is toxic if swallowed and maybe harmful if inhaled. Wear safety goggles or face shield, gloves and protective clothing when in use.
* Keep away from heat, sparks and open flame. Keep containers tightly closed in a dry, cool and well ventilated area.

**Procedure**

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| **Quality Control**  |
| **Daily:** | * Record both the LED temperature and the external thermometer temperature of the water bath on the Helmer Quickthaw Daily QC Form.
 |
| **Weekly:** | * Drain and clean the chamber and baskets
* Refill the chamber
* Perform QC before use

(See Helmer Quickthaw Operations Manual, Section 5.2) |
| **Monthly:**  | * Verify the LED temperature and external thermometer with the Fluke thermometer, and record on the Helmer Quickthaw Daily QC Form.
 |
| **Quarterly:**  | * Test the high temperature alarm by changing the set point of the thawer to 38.2 and allowing the chamber to heat to the new set point, which will activate the alarm. Document on the Helmer Quickthaw Daily QC Form. (See Helmer Quickthaw Operations Manual, section 5.5)
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| **TASKS:** Document on Thawer Daily QC Form |
| **Daily** | **Weekly** | **Quarterly** | **As needed** |
| * Record LED and external thermometer temperatures
 | **X** |  |  |  |
| * Clean the chamber and baskets.
 |  | **X** |  |  |
| * Clean the exterior.
 |  |  | **X** | **X** |
| * Clean the vents
 |  |  | **X** | **X** |
| * Lubricate the moving parts and check the basket bearings for wear.
 |  |  | **X** | **X** |
| * Check the temperature calibration for the

temperature controller readout and change it ifnecessary. |  |  | **X** |  |
| * Test the high temperature
 |  |  | **X** |  |

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| **Maintenance Instructions** |
| * Reference: Helmer Quickthaw Operations Manual
	+ Cleaning the thawer, Section 5.2
 | Instructions for cleaning should be referenced prior to deviation from this SOP. |
| * **C:\Users\valgas\AppData\Local\Microsoft\Windows\Temporary Internet Files\Content.IE5\VXW6MPIN\warning-sign11[1].png Caution**
 | * Do not press the LIFT OUT button if the basket is not attached to the lift-out system. The weight of the basket is needed for the rail and internal cabling to remain properly positioned during operation.
 |
| * Cleaning the chamber and baskets
* Reference: Helmer Quickthaw Operations Manual
	+ Draining the chamber, Section 4.10
* Materials for cleaning the chamber and baskets
 | * Confirm the baskets have been lowered into the chamber. Lower them if necessary by pressing and releasing the LIFT OUT button for each basket.
* Turn OFF and disconnect the power to the thawer.
* Drain the chamber completely.
	+ To drain the chamber:
		- Turn off the thawer and disconnect it from power.
		- Place the open end of the drain tube into the sink to drain.
		- Push the coupling valve on the other end of the drain tube into the drain port until it clicks into place. The water immediately starts flowing out of the chamber. To speed up the draining process, remove any air pockets in the tubing by squeezing the tubing next to the coupling valve.
		- After the chamber has fully drained, remove the baskets by unscrewing the finger knobs securing the baskets to the lift-out system.
		- Use a soft cloth or sponge. Do not use an abrasive material. Use a mild disinfectant suitable for stainless steel. In TSL these include soap or TB Quat disinfectant.

 **NEVER use bleach** due to corrosion and damage to plastic parts.* + - Rinse thoroughly with water and allow the chamber to empty.
		- Release the drain tube from the port by pressing down on the button on the drain port.
		- Install the baskets.
 |
| * Refilling the chamber
 | * Add tepid water to the chamber by using a tube connected to the faucet.
* Add 3cc Helmer Cleanbath disinfectant.
* Allow the baskets to agitate for at least 15mins to mix the disinfectant and the water temperature to stabilize to set point.
* Allow the water temperature to heat back to set point before using the thawer.
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| * Cleaning the exterior and vents
 | * Use a soft cloth or sponge. Do not use an abrasive material.
* Use soap or a mild cleaning agent and water.
* Wipe vents to improve airflow and prevent overheating.
* Rinse with water.
 |
| * Reference: Helmer Quickthaw Operations Manual
	+ Maintaining Moving Parts, Section 5.3.
 | * Bearings should be checked regularly for wear.
* Lubricate the rails with light-duty oil. Do not use grease.
 |
| * Lubricating the rails and bearings on the lift-out system

(Performed by SI/Engineering) | * Lift the baskets out of the chamber by pressing and releasing the LIFT OUT button for each basket.
* Remove the baskets by unscrewing the finger knobs securing the baskets to the lift-out system.
* Place a maximum of 3 drops of light-duty oil on your finger, then rub the oil along the length of all four sides of each lift-out rail. Lubricating all four sides of the rail ensures the bearing is properly lubricated.
* Install the baskets and lower them into the chamber by pressing and releasing the LIFT OUT button for each basket.
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**References**

Helmer Quick Thaw Plasma Thawing System Operation Manual

Standards for Blood Banks and Transfusion Services, Current Edition: American Association of Blood Banks. AABB Press, Bethesda, MD.