Purpose: To validate the cleaning requirements of equipment involved in animal use and monitor the effectiveness of a cleaning program to ensure cleaning and disinfection of surfaces in close proximity to research animals.

Background: Equipment that comes in contact with research animals should be sanitized on a regular basis. According to the Guide, “Whether the sanitation process is automated or manual, regular evaluation of sanitation effectiveness is recommended. This can be performed by evaluating processed materials by microbiologic culture or the use of organic material detection systems (e.g., adenosine triphosphate [ATP] bioluminescence) and/or by confirming the removal of artificial soil applied to equipment surfaces before washing.”

While Purdue animal facility cage wash areas have regular monitoring of sanitization in place, equipment in non-centralized areas, laboratories, and procedure spaces (caging, behavior, imaging, stereotax) are typically hand-washed; therefore, a system is needed to ensure proper sanitization of these items.

ATP testing works when ATP is brought into contact with the Hygenia liquid (the stable reagent) in the test device. Light is emitted in direct proportion to the amount of ATP present in the sample, providing information on the level of contamination in seconds.

Policy:

Frequency: All equipment (caging, behavior, imaging, stereotax, etc.) coming in contact with animals must be sanitized with each use. On a monthly basis, these items must be tested for ATP to ensure adequate sanitization. Records of testing must be maintained for this testing.

Procedure:

Ensure equipment is dry. Wet equipment will throw off results.

Remove ATP swabs needed from the refrigerator and allow to sit at room temperature for 10 minutes.

When collecting a sample, use aseptic technique: Wear gloves. Do not touch the swab or the inside of the Luminometer. Label each ATP tube with the type of equipment being tested.

Hold the swab tube, twist, and pull the top of the swab out of the tube.

Thoroughly swab the equipment, rotating the swab on the equipment surface to increase sample size. Area to be sampled: 4”x4”.

Place swab back in the tube.

To activate the liquid, hold the swab tube firmly and break the snap valve by bending the bulb forward and backward.

Squeeze the bulb twice, expelling all liquid down the swab.

Once bulb is drained, sample must be tested in 60 seconds.

Approved by the IACUC 6/15/2022
Gently shake for 5-10 seconds.

Hold the Luminometer in the upright position with the lid closed.

To start the Luminometer:

- Press the red circle located in the upper left corner
- It will begin to countdown from 60 seconds
- Once it reaches 0, it will beep, indicating that it is ready for the first sample ATP swab

Flip open the lid and place the ATP tube in the circular opening.

Click the lid shut and press the “OK” button.

It will take 15 seconds before the reading is given.

Record the result in the log with the following information:

- Date
- Time ATP swab was removed from the refrigerator
- Time ATP swab was used
- Description of equipment assessed and results
- Tester’s initials and comments

Open the lid and remove the tube.

Continue to test all ATP samples in this manner.

After all samples have been tested, press the red circle button to turn off the Luminometer.

Discard the ATP tubes in the trash receptacle after recording the results.

Results are:

0 – 10: acceptable

>10: unacceptable, the entire wash load or piece of equipment will need to be re-washed

Notes:

Luminometers are available to check out from the LAP veterinary staff. Please email Elisa Strange at emstrang@purdue.edu for schedule use. Training will be required for first time users of the LAP device.

ATP swabs may be purchased for a small price from LAP and will be charged for quarterly.

Hold the Luminometer upright when taking readings. Tilting the unit can change results.

ATP swabs must be refrigerated (35-46˚F).

Check expiration date on the ATP swabs.

Approved by the IACUC 6/15/2022