Effects of Environmental Light and Temperature on Hygiena ATP test devices

When testing environmental or equipment surfaces outside, some care needs to be taken to avoid the effects of variations in temperature or bright sunlight.

Temperature

Ambient room temperatures 20–22°C (70–72°F) provides an optimal range for testing and while the tests are quite robust in more extreme temperatures there can be some impact on the activity of the test reagents.

If tests are cold (e.g., just removed from the refrigerator), then the test reaction will be slowed and the RLU result produced in response to ATP could be lower. Devices should be allowed to reach ambient temperatures prior to activating and measuring.

To overcome this surface swab samples can be taken and then then the device taken back to a warmer environment. These can be allowed then to reach ambient temperature prior to activation and reading, ideally within 30 minutes of sampling. Alternatively, the devices can be carried in a warm place (e.g., inside a jacket internal pocket close to body heat).

For water samples, these will need to be taken in a clean sterile container and then returned to a warm environment. These can be allowed to attemperate to ambient temperature prior to testing.

Likewise, where tests are potentially exposed to high temperatures and test reagents can be damaged. They will need to be kept in a cool box or similar container and allowed to reach ambient temperature before use. Both tests and instruments should be protected from excessive heat. The temperature of a surface tested also needs to be considered. If the surface is hot, there may be some impact as the swabbing solution on the swab bud may be dried and could reduce surface sample recovery. In the case of water samples, if these are hot when taken, they should be allowed to cool prior to testing.

Light and Static

Where there is exposure to high sunlight or light from other sources then this in some cases can lead to an increase in RLU values. In these cases after taking the sample, a short time (30 seconds) should be allowed between exposure to high sunlight and the test being activated and measured in the instrument. Similar effects can be seen with atmospheric static eg in dry conditions. If there is concern that high external light or static is affecting a result then this can be tested for by taking an unused swab test then measuring the test. If this is higher than an expected background result take a repeat measurement of the same test to see if this reduces significantly from the first reading. If it does then this suggests exposure of the test to sunlight or static has increased the result. If it doesn't then repeat the test in a dark area. If the result reduces then it may suggest a light leak into the instrument. Check the sample chamber lid is closing correctly and there is no damage to the instrument casing.

Contact Hygiena Technical Support for further assistance.

- Phone: 1-888-HYGIENA (1-888-494-4362, option 2)
- Email: techsupport@hygiena.com
- Submit a Support Ticket
- Schedule a Microsoft Teams meeting with support