

Intended Use

N-Light™ ATP is a rapid and sensitive method developed for hygiene monitoring in the food industry. This test measures the amount of ATP (adenosine triphosphate) present on surfaces, equipment, or in solutions, which indicates the level of contamination with microbes and/or food residues. The N-Light™ ATP test is designed to assess the cleanliness of food contact surfaces, equipment, and food products themselves. This test is valuable for maintaining high standards of hygiene and cleanliness in food production and processing facilities.

Measurement Principle

The method is based on the detection of ATP by an enzymatic reaction which produces light. ATP is a molecule that provides energy for cellular processes and is present in all animals, plants, fungal cells and bacteria. Metabolically active (living) cells contain the highest levels of ATP. The N-Light™ ATP test tube contains a proprietary assay buffer and a reagent tablet in the cap. The amount of light produced after the tablet is released into the assay buffer is measured as relative light units (RLU). This value is directly proportional to the amount of ATP present in the sample, which corresponds to the level of contamination. The N-Light™ ATP test is designed for long shelf life, ease of use and robust performance.

Specificity and Sensitivity

N-Light™ ATP has a high level of specificity as it only detects ATP produced by cells and no other organic molecules. Furthermore, background luminescence in the absence of ATP is close to the electronic noise of the instrument, making ATP measurement with the NEMIS luminometer extremely sensitive. The N-Light™ ATP test can detect ATP produced by just a few thousand bacteria.

Storage and Shelf Life



Storage conditions: +2-8 °C / 36-16 °F, **DO NOT FREEZE**

Transport conditions: Ambient [for essential durations]

Shelf life: Guaranteed efficacy up to the expiration date stated on the product label.

Setting up the RLU threshold

ATP tests are only effective when tailored to a specific factory environment, so it is crucial to establish your own ATP thresholds before routinely using the test. It is necessary to define a sampling plan and set RLU limits that should not be exceeded if a specific surface or equipment is considered clean. These thresholds must be defined separately for each food production process.

Follow these steps:

Define the list of sampling sites.

- Measure each sampling point and record the RLU values with at least 3 ATP tests for each of the following conditions:
- Surface before cleaning - "dirty" surface
- Surface after cleaning - "clean" surface
- Calculate the average RLU values obtained for each condition at each sampling point.
- For each sampling site, define one RLU threshold value slightly higher than the value for the "clean" surface and one slightly lower than the value for the "dirty" surface.

Precautions

To prevent sample contamination during environmental sample collection, use a good aseptic technique and personal protective equipment (PPE) such as gloves. We recommend transferring the sample to the N-Light™ test immediately after collection and to seal the tube with the cap.



Safety

N-Light™ tests are not hazardous to health when used by trained personnel following these instructions. Do not ingest and prevent contact of the assay buffer with skin and mucosal surfaces.

Disposal

N-Light™ ATP tests do not require special disposal procedures. Since the test does not contain hazardous materials or components that require specific measures, it may be disposed of in regular waste bins.

Exclusion of warranty and liability

The product is provided on an as-is basis to be used solely in accordance with this instruction for use. NEMIS excludes any guarantee of the quality of food, beverage products, or processes tested with its products. NEMIS excludes all liability for damage to its products. However, should any NEMIS product found to be damaged, NEMIS, at its sole discretion, may choose to either replace or refund such product. To the extent legally possible, NEMIS will not be liable to users or others for any loss or damage, whether direct or indirect, incidental, or consequential, from either proper or improper use of its products.

Contact Information

If you have any questions or require assistance, please refer to the Frequently Asked Questions (FAQ) and other technical resources available online or contact techsupport@nemistech.com

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N-LIGHT™ ATP

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REQUIRED MATERIALS

1. N-Light™ ATP test tubes
2. NEMIS Bench-top Luminometer
3. Optional: N-Light™ Activation Tool (REF 00008)
4. N-Light™ sterile dry swabs BP

1. PREPARATION



Mark/label the test tubes according to your test plan.

2. SAMPLING



Open the test tube.



Wet the swab in the assay buffer inside the N-Light™ ATP test tube.



Carefully screw the cap back onto the tube. DO NOT LOCK THE TUBE.



Swab the sampling area.

Apply enough pressure and rotate the swab.

3. TRANSFER



Open the test tube.

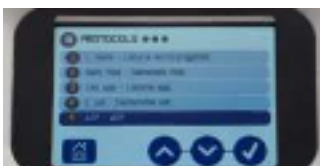


Break off the swab tip in the test tube and discard the rest.



Put the cap back on the test tube. Push the cap down until you hear a "click".

4. PREPARE LUMINOMETER



Switch on the luminometer, Select the ATP protocol and press the "hook" symbol.

Optional: Press the "pen" symbol and enter the sample name.

5. ACTIVATE



Hold the tube vertically and release the AquaSpark® tablet (open the lid and firmly push the button with the thumb or use the Activation Tool with the lid closed).



Verify the tablet is released into the liquid.



Shake the tube for 5 seconds, or until the tablet is fully dissolved.

Use a vortex mixer if available.

Tip: Tubes with swab samples can either be activated immediately or stored for up to 2 h at room temperature prior to analysis.

6. MEASURE

IMPORTANT: Measure each test tube immediately after activation (8-12 seconds after tablet release).



Place the test tube into the luminometer and start the measurement.



RLU > self-defined limit: repeat cleaning



RLU < self-defined limit: cleaning sufficient



Results can be downloaded in chronological order after the measurement via the NEMIS data app.