



## N-Light™ ATP

### 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 solution, 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 producing 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, fungi and bacteria cells. 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 release of the tablet to 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, easy use and robust performance.

### Setting up the RLU threshold

ATP tests only make sense when tailored to a given factory environment, so it is crucial to set up 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 surpassed if a specific surface or equipment is considered to be clean. Such thresholds must be defined for each food production process separately.

Follow the given 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
- Average RLU values obtained for each condition at each sampling point
- For each sampling site, define RLU threshold value which is slightly higher than the value for "clean surface" and lower than the value for "dirty surface"

### Storage and Shelf Life

+2-8 °C, **do not freeze**; check the expiration date on the label.

### Specificity and Sensitivity

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

### Precautions

To prevent contamination of samples with ATP from the skin, wear single-use plastic or rubber gloves during environmental sample collection. We recommend to transfer the sample to the N-Light™ test immediately after sampling and to seal the tube with the cap.



### Safety

N-Light™ ATP tests are not hazardous to health when used by qualified personnel in accordance with these instructions. As the assay buffer contains a detergent, do not ingest, and prevent contact with skin and mucosal surfaces.

### Disposal

N-Light™ ATP tests do not require special disposal procedures. As 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 of 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 be 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 our local representative.



More Info



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## REQUIRED MATERIALS

1. N-Light™ ATP test tubes
2. N-Light™ sterile dry swabs with breaking point
3. NEMIS Bench-top Luminometer



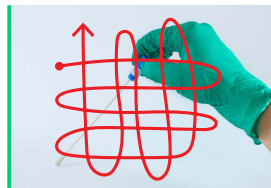
## 1 SAMPLE



Mark the test tube according to your test plan



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

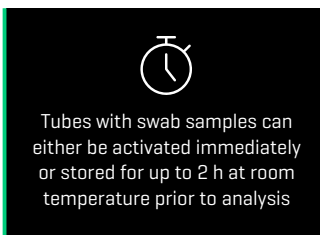


Swab the determined surface  
Apply enough pressure and rotate the swab



Break the swab into the same tube and discard the rest  
Put the cap on the test and press firmly until you hear a "click"

## 2 ACTIVATE



Open the protection lid and firmly push the button to release the reagent tablet

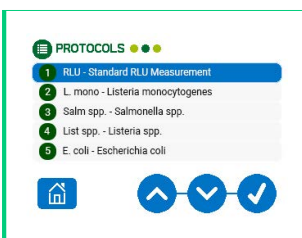


Verify the tablet has been released into the liquid



Shake for 10 s ( $\pm 1$  s) until the reagent tablet is completely dissolved

## 3 MEASURE



Select the Standard RLU Measurement protocol



Place the test tube into the luminometer



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