

## Suspended reading of HY-LiTE® tests

In cases where a HY-LiTE® 2 instrument is not available, reading of the HY-LiTE® pens can be suspended.

Shipping potentially hazardous samples to a laboratory may require special packaging, typically requires refrigerated transport, and even so the samples may deteriorate. In contrast the HY-LiTE® pens can simply be shipped by normal overnight mail or courier to a point where a luminometer is available.

The HY-LiTE® pens contain no hazardous components, and the microbiological contamination has been inactivated, so the pens are safe to ship.

### Principle:

The sample is processed up to the point of sampling with the white sampling stick and inserting the stick into the cuvette, without releasing and reconstituting the lyophilized Luciferase reagent.

At this point the test can be stopped for up to 48 hours.

The cells in the sample have been lysed, so will not continue to grow (increasing the signal), and the released ATP is preserved in the reaction buffer, so will not deteriorate.

### Method:

To protect the pen against unintentional release of reagent, the pen device is secured with a cable twist.

This is fitted prior to dipping the pen in the sample and must be left in place until the pen is ready to be activated and read in the luminometer.

Pens can be stored / shipped at room temperature for up to 48 hours, provided the temperature does not exceed 25 °C (77 °F).

When ready to read the pen, remove the cable twist, then press down and turn the pen collar to release and reconstitute the reagent, mix by shaking and insert the pen into the luminometer to read.

### Materials required:

HY-LiTE pen (1.30101 / 1.30102 / 1.30196 / 1.30890 / 1.30895)  
Twist-Lock Cable Fastener (can be used like Twist Lock TL-450).

### Precautions:

As accidental puncture of the foil and exposure of the reagent may occur (typically <2 % of pens) despite fitting the Twist Lock, we recommend to:

- Retain the aqueous sample (Fuel Capture solution, rinse water or liquid sample) and store refrigerated or frozen after the initial sampling until the result is obtained.
- Before removing the Twist Lock from the pen, shake the pen and then inspect the color of the buffer solution. If the buffer has turned pale yellow (green for Fuel pens), the pen has been damaged, and the retained sample (a) should be sampled again.

### Limitations:

Stability of the ATP readings after storage of the pens at ambient temperature is limited by the stability of the HY-LiTE® pen reagents themselves.

Delayed reading of HY-LiTE® tests has been validated on a number of food environment samples as well as on Fuel samples.

The only known sample type which do not remain stable for 48 hours is water from cut flowers. This may be caused by a very high content of phosphatase enzymes in the sample.

Likewise, ATP may not be stable in samples containing very high concentrations of oxidizing compounds (e.g. chlorine).

For different types of samples to those mentioned above, we recommend validating the stability of samples.

## Validation method:

Select samples naturally giving a high signal.

Test each sample with 2 pens each:

Dip 1 HY-LiTE® pen with a cable twist fitted, push in the sampling stick then store at the required conditions (time and temperature).

Dip another HY-LiTE® pen (without cable twist). Process and read signal immediately.

## Test stop device and use.

Compare the results obtained with and without storage by 1-way ANOVA (after log-transformation of the data).

For reference, tests on ATP standard solution (e.g. **1.30195**) can be included.

A minimum of 5 samples should be tested for validation purposes.



Cable Twist



Cable Twist and Pen



Fit Cable Twist to Pen as shown



Detail



Preventing Activation

When ready to read, remove Cable twist and turn pen top as normal, then mix and read in instrument immediately.

## For more information:

Please visit [SigmaAldrich.com/Hygiene-Monitoring](https://SigmaAldrich.com/Hygiene-Monitoring) or scan the QR code.



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