

HY-LiTE[®] Jet A1 Fuel Test Kit

Ready-to-use pens for the detection of total biological contamination of fuel.

The HY-LiTE[®] Jet A1 Fuel Test kit is used in conjunction with a HY-LiTE[®] 2/2A luminometer.

Fuel contains small amounts of water and bears risk of microbial contamination. Biomass created from microbial contamination (e.g. bacteria, fungi) in the fuel may grow and cause blocking of filters, corrosion of fuel tanks, or failure of the fuel quantity indication system (FQIS). Such damage is a very costly issue, especially in civil aviation, where issues can lead to delayed flights, unplanned maintenance, and delays waiting for microbiology results.

Typical Composition

Patented capture solution for sampling from fuel samples facilitates detection of adenosine triphosphate (ATP) by reaction with a luciferin/luciferase reagent in buffered solution.

User Benefits

- Results in <10 minutes compared to 3-4 days
- No special skill or advanced training required
- Testing flexibility-test in the field or in a lab
- Quantitative, objective results
- Numerical read-out with easy interpretation
- Same protocol for all jet fuel samples (with/without water)
- Same action limits for all samples (with/without water)
- Detects biological activity directly in the sample. It is not dependent on growth of microorganisms in laboratory media
- Flexible sample volume. 1 liter recommended but lower volumes can be tested. For comparison with guidelines, results can be volume adjusted: RLU/liter = RLU x (1000 mL/mL sample volume)

Test Procedure

Using the small pipette, transfer the blue capture solution from the test pen reservoir into the 1 liter fuel sample bottle. Close the bottle tightly, shake and let stand at least 5 minutes. Using the large pipette, transfer the blue capture solution back into the test pen's capture solution reservoir. Dip the white stick of the test pen into the capture solution in the reservoir then press the stick into the Pen cuvette. Press and twist (clockwise) the upper part of the Pen until it contacts the lower part. Shake the Pen, then insert into HY-LiTE[®] 2/2A luminometer for measurement. Close lid and read the result on the instrument's display.

The life science business of Merck KGaA, Darmstadt, Germany operates as MilliporeSigma in the U.S. and Canada.





Specification

Application	Detection of biomass contamination of Jet A1/Jet A fuel fuel samples. (The kit can also be used for diesel, biodiesel, biodiesel-blended fuel, and non-EtOH blended gasoline).			
Format	Ready prepared cuvette test format for use with HY-LiTE® 2/2A luminometer			
Reagent	Contains freeze-dried and stabilized luciferin/luciferase reagent (U.S. patents 5583024, 5674713, 5700673)			
Capture solution	Patented blue solution for capture of biomass from a 1 liter fuel sample			
Detection limit	1.4 x 10 ⁻¹⁴ mol ATP			
Interference	Chemical additives and contaminants such as FSII and anti-corrosive agents may interfere with the efficiency of the Capture Solution and the ATP bioluminescent reaction, which could cause lower than expected readings.			
	Biocides used to treat contaminated fuel may interfere with the reaction chemistry, depending on the concentration and type of biocide in the fuel. The effect of Kathon FP1.5 at 100 ppm w/w and Biobor JF at 270 ppm w/w have been tested in fuel and cause no significant interference on the HY-LiTE [®] Jet A1 Fuel Test.			
Industry Recommendations	• IATA (International Air Transport Association), "Microbiological Contamination in Aircraft Fuel Tanks", 5th edition and newer			
	 ASTM International D7463, "Standard Test Method for Adenosine Triphosphate (ATP) Content of Microorganisms in Fuel, Fuel/Water Mixtures, and Fuel Associated Water", 2008 and newer 			
Ambient conditions	Measurements at 5–35 °C			
Storage conditions	The test pens are stable up to the date stated on the package when stored closed at 2–8 °C. The shelf-life includes a period of transport or storage of up to 3 weeks at room temperature.			
Disposal	HY-LITE [®] pens can be disposed of with the normal waste.			
Kit Contents	 20 Jet A1 Fuel Pen tests 20 large pipettes 20 small pipettes 			

Ordering Information

Cat. No.	Item	Contents		Application
HY-LiTE [®] Items				
1.30196	HY-LiTE [®] Jet A1 Fuel Test Kit	 20 fuel test pens 20 large pipettes	• 20 small pipettes	Detection of total biological contamination in fuel samples
1.30100	HY-LiTE® 2A Instrument Kit	 Instrument luminometer AC charger and adapters USB cable for PC sync TREND2 PC software 	 Battery holder Documents on USB drive Padded carrying case 	HY-LiTE [®] 2A Luminometer complete with accessories in a robust, compact carrying bag

Recommended Nalgene® Plastic Bottles-available on SigmaAldrich.com

For the collection, preparation (including shaking), and extraction of fuel samples.

Note: Other plastic sample bottles may work, but performance of the HY-LiTE[®] Jet A1 Fuel Test cannot be guaranteed if bottles other than these are used.

Item Description	Cat. No.	Pack Size				
Style 2104 Plastic HDPE Bottles						
1 L fill volume	B9407	6/Case				
500 mL fill volume	B9282	12/Case				
Economy Wide Mouth HDPE Bottles						
1 L fill volume	TMO332189-0032	50/Case				
500 mL fill volume	TMO332189-0016	125/Case				

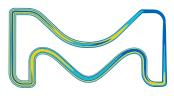
MilliporeSigma 400 Summit Drive Burlington, MA 01803

To place an order or receive technical assistance

In the U.S. and Canada, call toll-free 1-800-645-5476 For other countries across Europe and the world, please visit: **EMDMillipore.com/offices** For Technical Service, please visit: **EMDMillipore.com/techservice**

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