The updated ASTM D975 diesel specification now allows for the rapid determination of FAME using eraspec's ASTM D7806

Thanks to its high torque and energy density, diesel is the undisputed backbone of global logistics, agriculture, and heavy industry. However, decarbonizing this valuable fuel is essential.

The blending of fatty acid methyl esters (FAME) – a renewable biodiesel derived from vegetable oils or waste fats – offers an immediate solution. FAME reduces lifecycle greenhouse gas emissions without requiring engine modifications. Furthermore, it restores the critical lubricity lost during the desulfurization of modern, ultra-low-sulfur diesel, thereby protecting fuel injection systems. Despite challenges such as gel formation in winter, the blending of FAME remains an important, pragmatic bridge to a sustainable, low-carbon future.

ASTM D975 is a widely used standard specification for diesel fuel containing up to 5% volume biodiesel. In its latest version published in March 2026 it now allows the concentration determination of FAME according to ASTM D7806, a method developed by **era**lytics which is the standard FTIR test method to measure FAME on the era**spec** fuel analyzer.

ASTM D7806 offers several advantages over other methods for the determination of FAME listed in ASTM D975. As an FTIR transmission method, ASTM D7806 is similar to EN14078. However, unlike EN14078, ASTM D7806 does not require tedious dilutions for samples above 3% FAME concentrations. This reduces lab work and ensures quick and easy testing. Another method listed is ASTM D7371 which is an FTIR method based on attenuated total reflection (ATR) in combination with a PLS model. However, the ATR cell is notoriously difficult to clean and the use of a PLS model calls for very extensive calibration procedures.

In addition, ASTM D7806 is the only method in the list that includes an additional diagnostic option for detecting triglyceride contamination. Triglycerides are not allowed as a blending or additive component in diesel as they can pose serious risks to the vehicle's engine components.

Conclusion

ASTM D7806, the era**spec** standard method is now fully recognized under ASTM D975-26b, the latest and current standard specification for diesel fuel. This gives labs a tool to perform rapid screening of FAME content in diesel fuel and at the same time monitor illegal triglyceride blending.