

Testing a fuel's thermal stability can determine its potential for asphaltene dropout, one of the most common causes of fuel filter plugging. Asphaltenes are tar-like, resinous substances that "drop out" of suspension and tend to agglomerate at high engine operating temperatures. Thermal stability measure's the fuel's resistance to permanent changes in properties cause only by heat.

In determining thermal stability, a percentage range is assigned to the fuel based on its tendency to produce asphaltenes. The higher the fuel's thermal stability, the lower its potential for producing asphaltenes. Fuel with a Thermal Stability of 80% or greater should not cause filter clogging. Fuels between 60% and 80% could have a marginal affect and values less than 60% will significantly reduce filter life. If thermal stability is less than 60%, consider treating the fuel with an asphaltene conditioner, which will prolong suspension.

### Basic Fuel Testing

The following test package can detect problems that may affect fuel filter life.

- [Elemental Metals \(24\) by ICP \(ASTM D5185\)](#)
- [Pour Point \(ASTM D97\)](#)
- [Water & Sediment \(ASTM D2709\)](#)
- [Bacteria, Fungi & Mold \(POLARIS Method\)](#)
- [Thermal Stability \(ASTM D6468\)](#)

### Advanced Fuel Testing

This test package can determine if product in build storage tanks complies with supplier specifications.

- [Elemental Metals \(24\) by ICP \(ASTM D5185\)](#)
- [Viscosity @ 40°C \(ASTM D445\)](#)
- [Sulfur \(ASTM D7220\)](#)
- [Water & Sediment \(ASTM D2709\)](#)



- [Pensky-Marten Flash Point \(ASTM D93\)](#)
- [API Gravity \(ASTM D287\)](#)
- [Calculated Cetane Index \(ASTM D4737\)](#)
- [Distillation \(ASTM D86\)](#)
- [Cloud Point \(ASTM D2500\)](#)
- [Pour Point \(ASTM D97\)](#)
- [Thermal Stability \(ASTM D6468\)](#)
- [Bacteria, Fungi & Mold \(POLARIS Method\)](#)
- [Water % by Karl Fischer \(ASTM D1744\)](#)
- [Lubricity \(ASTM D6079\)](#)

For more information, please contact POLARIS Laboratories' Customer Service at 866-808-3750.