



# VHG Labs brand Reference materials for used oil analysis

In addition to our world-renowned line of wear metal standards, we offer an array of standards that have been specifically developed for use with applicable ASTM methods for predictive engine failure analysis.

We manufacture standards for the analysis of acid number, base number, fuel, metals, moisture, and soot content. By identifying trends in lubricant condition monitoring, used oil analysis is an effective technique to assess the health of an engine, gearbox, turbine, or other machinery and identify problems that may be developing.

By routinely measuring these properties in your lubricants, our standards will help keep downtime to a minimum.

Standard	Method	Technique
Acid Number (AN) - determination of acid number in petroleum products	ASTM D664/IP 177, ASTM D974	Potentiometric titration Color-indicator titration
Base Number (BN) - determination of base number in petroleum products	ASTM D2896/IP 276, ASTM D4739	Potentiometric titration
Fuel dilution - determination of diesel fuel or gasoline in engine oil	ASTM D3524 (for GC), ASTM D3525 (for GC), ASTM D92, D93 for flash point analyzer	GC, IR, fuel dilution meter (fuel sniffer), or flash point analyzer
Titration for Karl Fischer - determination of water in oil	ASTM D6304	ICP-OES, ICP-MS, AA
Metal additives standards (MA3, MA4, MA5, MA6)	ASTM: D4951, D5185, D6595	ICP, RDE
Proficiency testing for used oils	N/A	ICP, RDE, particle counter, viscometer
Soot content - determination of soot content in 15W40 diesel motor oil	ASTM D5967 (Appendix A4), ASTM D7686, and ASTM D7844	Infrared spectroscopy and others
Wear metal standards (V21, V21+K, V23, D3, D12, D13)	ASTM: D4951, D5185, D6595	ICP, RDE



For further information, or if you require substances or materials not currently listed please contact one of our local sales offices.

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