

Diesel Fuel Analysis

The life of your engine could be cut in half due to contaminated or poor quality fuel. Specific analyses are used to assess the condition of the fuel and determine its impact on the engine and its performance. The diesel fuel analysis measures Sulfur, the rate of which is regulated by the government.

Diesel fuel analysis

It is an assessment of the general condition of the fuel. Poor fuel can cause poor combustion, premature fouling, corrosion, and problems with injectors.

Spectroscopy

Analyze the contaminants, metals and Sulfur content (ppm) present in the fuel. Sulfur has a direct effect on SOX and NOX emissions.

Particles count

Determines the cleanliness level of the diesel fuel with the ISO 4406 particle count according to the International Organization for Standardization.

This analysis quantifies the number of particles from 4 microns to 50 microns in size and complements the wear level measurement determined by ICP metal analysis. It is used for filtered systems, especially hydraulic systems, as it indicates the level of fluid cleanliness. A high contamination level may indicate inadequate filtration in the hydraulic system. This undesirable situation causes critical parts, such as pumps, to break down.



Water by Karl Fisher

Water by Karl Fischer measures the amount of entrained water (in ppm) in the fuel. In the industry, standards are set to a max of 500ppm.

Bacteria

Bacteria, Fungi and Mold are indications that fuel storage tanks have not been properly maintained. Water can build up at the bottom of storage tanks and create an excellent breeding ground for biological growth.

API Gravity

API Gravity is the measure of a diesel fuel's density, or weight per volume. The higher the API Gravity, the less dense the fuel. API Gravity can provide valuable information about a fuel's composition and performance characteristics, power economy, low temperature properties and smoking tendencies.

TOROMONT FLUID ANALYSIS PROGRAMS

Type of test	Part number	Service	Brief description of test
Basic oil analysis	SOSOIL SOSOIL-X SOSOIL-L SOSOIL-C	SOS kits 10 SOS kits 50 SOS kits 100 SOS kits	<ul style="list-style-type: none"> • Elemental analysis (23 elements) - ASTM D5185 • Crackle test • Fuel dilution percentage by GC, if required • Oil condition analysis for soot, oxidation, sulfation and nitration, ASTM E2412 - FTIR method • Viscosity at 100 °C - ASTM D445 • ISO particle count on hydraulic systems • PQI for all other systems
Coolant analysis - Level 1	SOSCOOL1	Basic coolant analysis kit - Level 1	<ul style="list-style-type: none"> • Elemental analysis (14 elements) • Glycol percentage, freezing point and boiling point • pH • Conductivity • Nitrite levels • Coolant physical characteristics, foam, colour, oil, contamination, precipitates and odour
Coolant analysis - Level 2	SOSCOOL2	Advanced coolant analysis kit - Level 2	<ul style="list-style-type: none"> • Level 1 coolant analysis • Total dissolved solids • Chlorides/carbonates/sulfates • Glycolic acid • Phosphates • Sebacic acid
Diesel fuel analysis	SOSFUEL	Diesel fuel analysis kit	<ul style="list-style-type: none"> • Elemental analysis • Sulfur analysis • API[SB1] • Water content using Karl Fischer method • Bacteria (if water is positive) • Visual inspection • ISO particle count



Questions about our diesel fuel analysis program?

Contact the Toromont SOS Fluid Analysis lab team:



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