Mobil Serv℠
Lubricant Analysis

Suitability for continued use analysis

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This extended service analysis helps determine suitability for continued use in critical applications.

Description

Monitoring system performance through routine lubricant analysis provides useful information to support reliability and maintenance decisions. However, for certain critical applications that are subject to demanding operating conditions, we provide a more extensive level of analysis to help ensure accurate lubricant and equipment assessment.

Potential benefits

- Improved equipment reliability by identifying potential failures before they occur
- Increased productivity through reduction of unscheduled downtime
- Reduced parts replacement and labor costs
- Minimized lubricant consumption and disposal with optimized drain interval

Analysis options — Suitability for continued use

Demulsibility	✓
Foam Test Sequence I	✓
Metals	✓
Nitration	✓
Oxidation	✓ ★
Particle Count	✓
Particle Qualification (PQ) Index	✓
Rotation Pressure Vessel Oxidation Test (RPVOT)	✓
Total Acid Number (TAN)	✓
Ultracentrifuge	✓
Viscosity at 40°C and 100°C	✓
Viscosity Index	✓
Water Vol % Karl Fischer (KF)	✓

Key

✓ Included test

★ TAN in lieu of oxidation for select synthetic products

Analysis may vary by laboratory, product supplied or oil condition. Contact your local ExxonMobil representative for additional details.

Sample frequency

Sample at OEM recommended frequency or, for general guidance, begin with: **Quarterly**. Adjust frequency based on asset's economic impact, operating environment, machine age, oil age or sample results trend.

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Test	Purpose	Importance of test
Demulsibility	To measure the ability of an oil to separate from water	The ability of the oil to shed water will have a direct impact on its long-term oxidative stability and equipment rust prevention
Foam Sequence I	To measure the potential of an oil to inhibit foam formation	Foam can lead to operational issues like improper oil level indication or reservoir overflow
Metals	To determine the presence and levels of metallic content in the oil, including contaminants and wear particles	The level of wear metals helps determine if equipment components are wearing or if harmful contamination has entered the oil. The level of metals that are part of the additive chemistry is also reported
Nitration	To measure the amount of nitrogen byproducts in the oil	Nitration results from the rapid compression of entrained air. As a result, if unchecked, nitrogen and oxidation precursors might form sticky varnishes.
Oxidation	To determine the level of lubricant oxidation and deterioration	Oxidation can cause: ▪ Increased wear and corrosion ▪ Shorter equipment life ▪ Increased viscosity ▪ Excessive deposits and plugging
Particle Count Analysis	To measure the level of particulate contaminants in the oil	▪ Cleanliness is a critical factor in the running of turbine oil systems ▪ Debris can interfere in the fine tolerances of the systems, pumps and valves or cause premature wear
Particle Qualification (PQ) Index	To determine ferrous metal fatigue failures and metal-to-metal contact not usually detectable with some spectrographic analysis	PQ Index can detect at an early stage: ▪ Anti-friction bearing wear ▪ Plain bearing wear ▪ Gear wear
Rotating Pressure Vessel Oxidation Test (RPVOT)	To measure varnish deposit formation in oil	Elevated deposit formation can signify increased potential for varnish formation
Total Acid Number (TAN)	To measure acidic oil oxidation byproducts	An elevated Total Acid Number may indicate increased oil acidity resulting from increased oil oxidation
Ultracentrifuge	To measure varnish deposit formation in the oil	Elevated deposit formation can indicate potential for varnish formation
Viscosity	To determine the oil's resistance to flow	▪ An increase in viscosity may be due to high insoluble content, water contamination, oxidation or admixture with higher viscosity lubricant ▪ A decrease in viscosity may be due to water contamination, shearing of viscosity modifiers or admixture with lower viscosity lubricant ▪ High or low viscosity may result in premature equipment wear
Viscosity Index	To measure the change of viscosity with temperature	Higher VI demonstrates wider operating range. Monitor for cross contamination. Monitor for viscosity shear.
Water	To detect presence of water contamination	Water contamination may cause severe corrosion and subsequent wear, poor oil film thickness or hydrogen embrittlement

Advancing Productivity™

By helping you enhance equipment life and reliability — which minimizes maintenance costs and downtime — our expert services can help you achieve your safety, environmental care and productivity goals.