

Engine Oil Analysis

| Element | Indicators |
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| Iron | High levels indicate wear from rings, shafts, gears, valve trains, cylinder walls, pistons or liners |
| Chromium | May indicate excessive wear of chromed parts such as rings, liners and some additives |
| Nickel | Secondary indicator of wear from some bearings, shafts, valves and valve guides |
| Aluminum | Wear from pistons, rod bearings, and certain shaft types |
| Lead | An overlay on main rods and bearings |
| Copper | Wear from bearings, rocker arm bushings, pin bushings, thrust washers, and other brass bronze parts |
| Tin | Wear from bearings and pistons in some engines |
| Silver | Wear of bearings. A secondary indicator of oil cooler problems, when coolant is detected. |
| Titanium | Used as an alloy in steel for gears and bearings |
| Silicon | Airborne dust/dirt contamination indicates poor air cleaner servicing, and can accelerate wear |
| Boron | A coolant additive, and additive in some oils |
| Sodium | A coolant additive, and additive in some oils |
| Potassium | A coolant additive |
| Molybdenum | Wear from rings, and additive in some oils |
| Phosphorus | Antirust agents and combustion chamber deposit reducers |
| Zinc | An anti-oxidant, corrosion inhibitor, anti-wear additive, detergent and extreme pressure additive |
| Calcium | A detergent, dispersant and acid neutralizer |
| Barium | Corrosion inhibitors, detergents and rust inhibitors |
| Magnesium | Dispersant and detergent additive and alloying metal |
| Antimony | A bearing overlay alloy or oil additive |
| Vanadium | A heavy fuel contaminant |