



Potential Sources of Elements Detected by ICP-AES



Iron	Wear Debris / Steel / Cast Iron / Rust / Mill Scale / Ore Dust / Paint / Some Detergents
Nickel	Steel Alloys / Plating / Co-Ni (Stellite)
Silver	Bearing Overlays / Some Needle Bearings
Potassium	Coolant Inhibitor / Inorganic Salts / Fly Ash
Boron	Coolant Inhibitor / Additive (EP) / Boric Acid / Detergents
Chromium	Chrome plating / Bearing Surfaces / Paint / Stainless Steel / Ring Plating
Silicon	General Dirt, Dust / Sealants / Synthetic Lubricants / Grease / Glass Fibre / Silicates (ash, talc) / Antifoam / Coolant Additive
Lead	Paint / Solder / Bronze Alloy / Fuel Additive / Journal Bearing Overlay / Babbitt
Sodium	Coolant Inhibitor / Saltwater / Salt / Road Dust
Copper	Brass / Bronze / Additive (AW) / Bearing Cage / Cooler Cores / Babbitt / Slinger Rings / Washers / Bushings
Molybdenum	Additive (EP) / Alloying Metal (Mo Steel)
Calcium	Detergent / Rust Inhibitor / Cement Dust / Limestone / Engine Oil Additive / Hard Water / Rubber / Gypsum
Zinc	Additive (AW) / Plating / Galvanisation / Brass / Sacrificial Cathodic Protection (Water Systems) / Grease
Phosphorous	Additive (EP and AW) / Detergents / Surface finish – Some Gears
Tin	Bronze (including some bearing cages) / Solder / Journal Bearing Flashing / Babbitt
Aluminium	General Dirt and Dust / Bearing Material / Paints / Alumina / Wear Debris / Catalyst / Some Alloys
Barium	Engine Oil Additive / Fuel Additive / Grease
Vanadium	Valves / Steel Alloys / Turbine Blades / Bunker Fuel
Titanium	Gas Turbine Bearings / Paint / Filler / Turbine Blades Plating / Journal Bearings / Batteries
Cadmium	ng / Journal Bearings / Batteries
Magnesium	Talc / Sea Water / Turbine Metals / Additive (engine) / Alloying Metal (Al)