

METHOD FOR DETECTING FUEL DILUTION OF MARINE LUBRICATING OILS

Abstract

Vanadium in marine diesel lubricating oils resulting from raw fuel dilution is detected and quantified by means of an analytical technique employing electron spin resonance (ESR). Dilution of the lubricating oil with residual fuel oils results in the presence of vanadium in the lubricating oil in a form which is capable of being observed by ESR; by contrast, vanadium resulting from the presence of fuel oil combustion products (pentavalent vanadium) in the lubricating oil is not observed by ESR. The method therefore enables fuel vanadium. Typically present as vanadyl porphyrins, to be differentiated from vanadium resulting from blow-by in the engine so that the operating condition of the engine may be monitored.

FIGURE 1 IS SUGGESTED FOR PUBLICATION.