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2 **ANTI-WEAR ADDITIVE COMPOSITION FOR A LOW SULFUR, LOW**
3 **SULFATED ASH AND LOW PHOSPHORUS LUBRICATING OIL**
4 **COMPOSITION FOR HEAVY DUTY DIESEL ENGINES**

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6 **ABSTRACT**

7 The present invention is directed to a low sulfur, low sulfated ash and low
8 phosphorus lubricating oil composition for low emission heavy duty diesel
9 engines comprising (a) a major amount of an oil of lubricating viscosity and (b)
10 at least 2 weight percent of an anti-wear additive composition comprising a
11 metal salt of a Mannich condensation product based on the total weight of the
12 lubricating oil. The present invention is also directed to a low sulfur, low
13 sulfated ash and low phosphorus lubricating oil concentrate comprising (a) an
14 oil of lubricating viscosity and (b) at least 2 weight percent of an anti-wear
15 additive composition comprising a metal salt of a Mannich condensation
16 product based on the total weight of the lubricating oil.