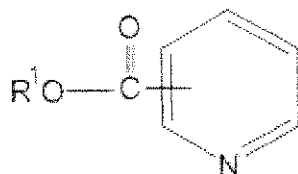


### Abstract

An ashless additive for lubricating oil compositions, lubricating oil compositions and methods for lubricating that are effective to improve the total base number (TBN) of a lubricant composition. The additive is a reaction product of a compound of the formula:



with NH<sub>3</sub>, an alcohol, an amine, or a hydrocarbyl amine, wherein R<sup>1</sup> is selected from H, a hydrocarbyl group, the alcohol or amine contains from 1 to about 24 carbon atoms, and the hydrocarbyl amine has a number average molecular weight ranging from about 100 to about 6000