CLAIMS:

1. A method for preventing or reducing engine knock or pre-ignition in an engine lubricated with a lubricating oil by using as the lubricating oil a formulated oil, said formulated oil having a composition consisting essentially of at least one ester of a non-aromatic dicarboxylic acid,

wherein the at least one ester of a non-aromatic dicarboxylic acid comprises at least one dialkyl adipate ester,

wherein the dialkyl adipate ester is derived from adipic acid and a branched alkyl alcohol,

wherein the branched alkyl alcohol has at least about 30% of the carbons in the form of methyl groups, and

wherein the dialkyl adipate, when 1% of which is added to isooctane, maintains at least 98% of the isooctane pre-ignition delay as determined by ASTM D7668.

2. The method of claim 1 wherein the dialkyl adipate ester is selected from the group consisting of diisopropyl adipate, diisobutyl adipate, diisopentyl adipate, diisohexyl adipate, and mixtures thereof.

3. The method of claim 1 wherein the dialkyl adipate ester comprises diisobutyl adipate.

4. The method of claim 1 wherein the branched alkyl alcohol has at least about 50% of the carbons in the form of methyl groups.

5. The method of claim 1 wherein the engine is a high compression spark ignition engine with a compression ratio of at least about 13.

6. The method of claim 1 wherein the engine is a high compression spark ignition engine with a compression ratio of at least about 15.

7. The method of claim 1 wherein the engine is a super-charged engine or a turbo-charged engine.

8. The method of claim 1 wherein the pre-ignition is low speed pre-ignition (LSPI).

9. The method of claim 1 wherein the lubricating oil is used with a gasoline fuel with Research Octane Number (RON) or Motor Octane Number (MON) higher than 95.

10. A method for preventing or reducing engine knock or pre-ignition in an engine lubricated with a lubricating oil by using as the lubricating oil a formulated oil, said formulated oil having a composition consisting essentially of a lubricating oil base stock as a major component; and at least one cobase stock, as a minor component; wherein said cobase stock comprises at least one ester of a non-aromatic dicarboxylic acid,

wherein the at least one ester of a non-aromatic dicarboxylic acid comprises at least one dialkyl adipate ester,

wherein the dialkyl adipate ester is derived from adipic acid and a branched alkyl alcohol,

wherein the branched alkyl alcohol has at least about 30% of the carbons in the form of methyl groups, and

wherein the dialkyl adipate, when 1% of which is added to isooctane, maintains at least 98% of the isooctane pre-ignition delay as determined by ASTM D7668.

11. The method of claim 10 wherein the dialkyl adipate ester is selected from the group consisting of diisopropyl adipate, diisobutyl adipate, diisopentyl adipate, diisohexyl adipate, and mixtures thereof.

12. The method of claim 10 wherein the dialkyl adipate ester comprises diisobutyl adipate.

13. The method of claim 10 wherein the branched alkyl alcohol has at least about 50% of the carbons in the form of methyl groups.

14. The method of claim 10 wherein the engine is a high compression spark ignition engine with a compression ratio of at least about 13.

15. The method of claim 10 wherein the engine is a high compression spark ignition engine with a compression ratio of at least about 15.

16. The method of claim 10 wherein the engine is a super-charged engine or a turbo-charged engine.

17. The method of claim 10 wherein the pre-ignition is low-speed pre-ignition (LSPI).

18. The method of claim 10 wherein the lubricating oil is used with a gasoline fuel with Research Octane Number (RON) or Motor Octane Number (MON) higher than 95.

19. A method for preventing or reducing engine knock or pre-ignition in a spark ignition engine by using a fuel additive composition in a gasoline fuel composition or a diesel fuel composition, wherein the gasoline fuel composition or the diesel fuel composition is used in a spark ignition internal combustion engine, said fuel additive composition consisting essentially of at least one ester of a non-aromatic dicarboxylic acid,

wherein the at least one ester of a non-aromatic dicarboxylic acid comprises at least one dialkyl adipate ester,

wherein the dialkyl adipate ester is derived from adipic acid and a branched alkyl alcohol,

wherein the branched alkyl alcohol has at least about 30% of the carbons in the form of methyl groups, and

wherein the dialkyl adipate, when 1% of which is added to isooctane, maintains at least 98% of the isooctane pre-ignition delay as determined by ASTM D7668.

20. The method claim 19 wherein the engine is a high compression spark ignition engine with a compression ratio of at least about 13.

21. The method of claim 19 wherein the engine is a high compression spark ignition engine with a compression ratio of at least about 15.

22. The method of claim 19 wherein the engine is a super-charged engine or a turbo-charged engine.

23. The method of claim 19 wherein the pre-ignition is low speed pre-ignition (LSPI).

24. A fuel additive composition for use in a gasoline fuel composition or a diesel fuel composition, wherein the gasoline fuel composition or the diesel fuel composition is used in a spark ignition internal combustion engine, said fuel additive composition consisting essentially of at least one ester of a non-aromatic dicarboxylic acid,

wherein the at least one ester of a non-aromatic dicarboxylic acid comprises at least one dialkyl adipate ester,

wherein the dialkyl adipate ester is derived from adipic acid and a branched alkyl alcohol,

wherein the branched alkyl alcohol has at least about 30% of the carbons in the form of methyl groups, and

wherein the dialkyl adipate, when 1% of which is added to isooctane, maintains at least 98% of the isooctane pre-ignition delay as determined by ASTM D7668.

25. A gasoline fuel composition for use in an internal combustion engine, said gasoline fuel composition comprising a gasoline fuel and a fuel additive composition consisting essentially of at least one ester of a non-aromatic dicarboxylic acid,

wherein the at least one ester of a non-aromatic dicarboxylic acid comprises at least one dialkyl adipate ester,

wherein the dialkyl adipate ester is derived from adipic acid and a branched alkyl alcohol,

wherein the branched alkyl alcohol has at least about 30% of the carbons in the form of methyl groups, and

wherein the dialkyl adipate, when 1% of which is added to isooctane, maintains at least 98% of the isooctane pre-ignition delay as determined by ASTM D7668.

26. The gasoline fuel composition of claim 25 comprising gasoline fuel and fuel additive composition in a ratio of a fuel additive composition: gasoline fuel volume ratio of greater than about 1:1000.

27. The gasoline fuel composition of claim 25 wherein said fuel additive composition is present in an amount sufficient to produce a fuel additive composition: gasoline fuel volume ratio of between about 1:100 and 1:5.