

What is claimed is:

1. A lubricating oil composition comprising:
 - greater than 50 wt.% of a base oil of lubricating viscosity, and
 - calcium, nitrogen, molybdenum and boron, wherein
 - a weight ratio of Ca:N in the lubricating oil composition is greater than 1.3 to less than 3.0, a weight ratio of Ca:Mo in the lubricating oil composition is greater than 6.7 to less than 56.3, a weight ratio of Ca:B in the lubricating oil composition is greater than 5.0 to less than 9.8, and
 - the lubricating oil composition does not contain added magnesium from a magnesium-containing detergent, andwherein the lubricating oil composition is effective to ensure a TCO Temperature Increase of less than 9.0% as measured using the 2015 version of the General Motors dexos1® Turbocharger Coking Test.
2. The lubricating oil composition of claim 1, wherein the lubricating oil composition comprises at least one detergent selected from one or more overbased calcium-containing detergents having a total base number of greater than 225 mg KOH/g, measured by the method of ASTM D-2896, and optionally one or more low-based/neutral calcium-containing detergents having a total base number of up to 175 mg KOH/g, measured by the method of ASTM D-2896.
3. The lubricating oil composition of claim 2, wherein the one or more overbased calcium-containing detergents is selected from an overbased calcium sulfonate detergent, an overbased calcium phenate detergent, an overbased calcium salicylate detergent and mixtures thereof.
4. The lubricating oil composition of claim 2, wherein the one or more overbased calcium-containing detergents provides from about 900 to about 3000 ppm by weight calcium to the lubricating oil composition, based on a total weight of the lubricating oil composition.
5. The lubricating oil composition of claim 1, wherein the total base number of the lubricating oil composition is at least 6.0 mg KOH/g of the lubricating oil composition as measured by the method of ASTM D-2896.

6. The lubricating oil composition according to claim 1, wherein the total amount of magnesium in the lubricating oil composition is less than 50 ppm, based on a total weight of the lubricating oil composition.
7. The lubricating oil composition according to claim 1, wherein the lubricating oil composition comprises a boron-containing dispersant.
8. The lubricating oil composition according to claim 1, wherein the lubricating oil composition comprises an oil-soluble molybdenum compound.
9. The lubricating oil composition according to claim 1, wherein the nitrogen is present in the lubricating oil composition in an amount of about 500 ppm to about 2500 ppm, based on a total weight of the lubricating oil composition.
10. The lubricating oil composition of claim 1, further comprising one or more components selected from the group consisting of friction modifiers, antiwear agents, dispersants, antioxidants, and viscosity index improvers.
11. The lubricating oil composition of claim 1, wherein the greater than 50 wt.% of base oil is selected from the group consisting of Group II, Group III, Group IV, Group V base oils, and a combination of two or more of the foregoing, and wherein the greater than 50 wt.% of base oil is other than diluent oils that arise from provision of additive components or viscosity index improvers in the composition.
12. The lubricating oil composition of claim 1, wherein the weight ratio of Ca:N in the lubricating oil composition is from 1.4 to 2.8.
13. The lubricating oil composition of claim 1, wherein the weight ratio of Ca:Mo in the lubricating oil composition is from 6.8 to 45.
14. The lubricating oil composition of claim 1, wherein the weight ratio of Ca:B in the lubricating oil composition is from greater than 5.1 to 9.7.
15. The lubricating oil composition of claim 1, wherein the lubricating oil composition is

effective to ensure a TCO Temperature Increase of less than 8.0% as measured using the 2015 version of the General Motors dexos1® Turbocharger Coking Test.

16. A method for reducing or preventing formation of deposits in a boosted internal combustion engine comprising steps of:

lubricating a boosted internal combustion engine with a lubricating oil composition comprising

greater than 50 wt.% of a base oil of lubricating viscosity;

calcium, nitrogen, molybdenum and boron, wherein

a weight ratio of Ca:N in the lubricating oil composition is greater than 1.3 to less than 3.0, a weight ratio of Ca:Mo in the lubricating oil composition is greater than 6.7 to less than 56.3, a weight ratio of Ca:B in the lubricating oil composition is greater than 5.0 to less than 10, and

the lubricating oil composition does not contain added magnesium from a magnesium-containing detergent, and

wherein the lubricating oil composition is effective to ensure a TCO Temperature Increase of less than 9.0% as measured using the 2015 version of the General Motors dexos1® Turbocharger Coking Test, and
operating the engine lubricated with the lubricating oil composition.

17. The method of claim 16, wherein the lubricating oil composition comprises at least one detergent selected from one or more overbased calcium-containing detergents having a total base number of greater than 225 mg KOH/g, measured by the method of ASTM D-2896, and optionally one or more low-based/neutral calcium-containing detergents having a total base number of up to 175 mg KOH/g, measured by the method of ASTM D-2896.

18. The method of claim 17, wherein the one or more overbased calcium-containing detergents provides from about 900 to about 3000 ppm by weight calcium to the lubricating oil composition, based on a total weight of the lubricating oil composition.

19. The method of claim 16, wherein the nitrogen is present in the lubricating oil composition in an amount of from about 500 ppm to about 2500 ppm, based on a total weight of the lubricating oil composition.

20. The method of claim 16, wherein the lubricating step lubricates a combustion chamber or cylinder walls of a spark-ignited direct injection engine or spark-ignited port fuel injected internal combustion engine provided with a turbocharger or a supercharger.