C L A I M S

1. A hydroprocessing catalyst composition, wherein said hydroprocessing catalyst composition, comprises: a support material that is loaded with active metal components including a cobalt or nickel component, a molybdenum component, and a phosphorous component, and having been dried but not calcined, wherein at least 75% of its pore volume is filled with an additive consisting essentially of a heterocyclic additive, wherein said heterocyclic additive is a heterocyclic, polar compound of the formula $C_xH_nN_yO_z$, wherein x is an integer of 3 or larger; y is either 0, 1, 2 or 3; z is either 0, 1, 2 or 3; and n is the number of hydrogen atoms required to fill the remaining bonds with the carbon atoms of the molecule, and further, said heterocyclic, polar compound is selected from the group consisting of cyclic ether compounds and cyclic ester compounds.

2. A catalyst composition as recited in claim 1, wherein said catalyst composition further comprises a material absence of a hydrocarbon oil.

3. A catalyst composition as recited in claim 1, wherein said support material is further thereafter treated with a gas comprising hydrogen.

4. A catalyst composition as recited in claim 1, wherein the additive is propylene carbonate.

5. A catalyst composition as recited in claim 1, wherein said cobalt or nickel component is present in said composition in an amount in the range of from 0.5 wt.% to 20 wt.%, and wherein said molybdenum component is present in said composition in an amount in the range of from 5 wt.% to 50 wt.%.

6. A method of making a hydroprocessing catalyst composition, wherein said method comprises:

incorporating a metal-containing solution, comprising a cobalt or nickel component, a molybdenum component, and a phosphorous component, into a support material to provide a metal-incorporated support material;

drying said metal-incorporated support material to provide a dried metal-impregnated support material; and

filling at least 75% of the pore volume of said dried metal-impregnated support material with an additive consisting essentially of a heterocyclic compound additive selected from the group consisting of cyclic ether compounds and cyclic ester compounds of the formula $C_xH_nN_yO_z$, wherein x is an integer of 3 or larger; y is either 0, 1, 2 or 3; z is either 0, 1, 2 or 3; and n is the number of hydrogen atoms required to fill the remaining bonds with the carbon atoms of the molecule, to thereby provide an additive-impregnated composition.

7. A method as recited in claim 6, further comprising: contacting said additive-impregnated composition under suitable hydrogen treatment conditions with hydrogen to thereby provide a hydrogen-treated composition.

8. A method as recited in claim 7, wherein said dried metal-incorporated support material has a volatiles content in the range of from 3 to 20 wt. % LOI.

9. A method as recited in claim 8, wherein said cobalt or nickel component is present in said composition in an amount in the range of from 0.5 wt. % to 20 wt. %, and wherein said molybdenum component is present in said composition in an amount in the range of from 5 wt. % to 50 wt. %.

10. A composition made by the method of claim 6.

11. A process for hydrotreating a hydrocarbon feedstock, wherein said process comprises: contacting under suitable hydrotreating process conditions said hydrocarbon feedstock with the catalyst composition recited in claim 1; and yielding a treated product.