CLAIMS:

1. A catalyst comprising

at least one Group VIB metal component selected from molybdenum and tungsten,

at least one Group VIII metal component selected from nickel and cobalt,

at least one organic additive component, and

a titanium-containing carrier component,

wherein the titanium content is in the range of 1 to 60 wt.%, expressed as an oxide, TiO_2, and based on the total weight of the catalyst and wherein the silica content is less than 1.0 wt.% expressed as an oxide, SiO_2, and based on the total weight of the catalyst.

2. The catalyst of Claim 1 wherein the Group VIB metal component is in an amount of 15 to 30 wt.% expressed as an oxide based on the total weight of the catalyst.

3. The catalyst of Claim 1 wherein the Group VIII metal component in an amount of 2 to 8 wt.% expressed as an oxide based on the total weight of the catalyst.

4. The catalyst according to Claim 1 wherein the Group VIB metal component is molybdenum and/or tungsten and the Group VIII metal component is nickel and/or cobalt.

5. The catalyst of Claim 1 wherein the silica content is less than 0.5 wt.% expressed as an oxide, SiO_2, and based on the total weight of the catalyst.

6. The catalyst of Claim 1 wherein the organic component is an organic compound selected from the group consisting of organic compounds comprising at least two oxygen atoms and 2 - 10 carbon atoms and ethers derived therefrom.

7. The catalyst of Claim 6 wherein the organic component is an organic compound selected from the group consisting of at least two oxygen-containing moieties, such as a carboxyl moiety and ethers derived therefrom.

8. The catalyst of Claim 7 wherein the organic component is an organic compound selected from the group consisting of ethylene glycol, propylene glycol, triethylene glycol, propanediol, glycerin, trimethylol ethane, trimethylol propane, diethylene glycol.

9. The catalyst of Claim 6 wherein the organic component is an organic compounds comprising at least two hydroxyl groups and a H:O ratio of 2:1, e.g., monosaccharides such as glucose, ribose, and ethers derived therefrom.

10. The catalyst of Claim 1 wherein the organic component is a sulfur-containing component.

11. The catalyst of Claim 10 wherein the organic component is mercapto carboxylic acid.

12. The catalyst of Claim 11 wherein the mercapto carboxylic acid is thioglycolic acid, thiolactic acid, thiopropionic acid, mercapto succinic acid or cysteine.

13. The catalyst of Claim 1 further comprising a phosphorous component in the amount of 1 to 8 wt.% expressed as oxide based on the total weight of the catalyst.

14. The catalyst of Claim 1 wherein the organic additive component is in amount of 1 to 30 wt.% C.

15. The catalyst of Claim 14 wherein the organic additive component is in amount of 1 to 20 wt.% C.

16. The catalyst of Claim 15 wherein the organic additive component is in amount of 5 to 15 wt.% C.

17. A method of producing a catalyst, the method comprising

co-extruding a titanium source with a porous material comprising Al_2O_3 to form a titanium-containing carrier extrudate,

drying and calcining the extrudate, and

impregnating the calcined extrudate with an organic additive, at least molybdenum and/or tungsten metal source and at least one nickel and/or cobalt metal source,

the amount of the titanium source being sufficient so as to form a catalyst composition at least having a titanium content in the range of 1 to 60 wt.%, expressed as an oxide, TiO_2, based on the total weight of the catalyst and has less than 1.0 wt.% silica expressed as an oxide, SiO_2, and based on the total weight of the catalyst.

18. A method of producing a catalyst, the method comprising

precipitating a titanium source with an aluminum source,

extruding the precipitate to form a titanium-containing carrier extrudate,

drying and calcining the extrudate, and

impregnating the calcined extrudate with an organic additive, at least one molybdenum and/or tungsten metal source and at least one nickel and/or cobalt metal source,

the amount of the titanium source being sufficient so as to form a catalyst composition at least having a titanium content in the range of 1 to 60 wt.%, expressed as an oxide, TiO_2, based on

the total weight of the catalyst and has less than 1.0 wt.% silica expressed as an oxide, SiO_2, and based on the total weight of the catalyst.

19. The method of Claim 18 wherein the precipitation comprises the steps of (a) simultaneous dosing of sodium aluminate and aluminum sulfate to water at a fixed pH (b) re-slurrying the formed alumina filter cake in water (c) adding to this slurry $TiOSO_4$ or titanium sulfate at a fixed pH > 7 controlled by an alkaline solution.

20. The method of Claim 18 wherein the aluminum source and the titanium source are mixed in one stream and sodium aluminate are dosed either simultaneously or subsequently to water at a pH > 7.

21. A method of producing a catalyst, the method comprising

impregnating a porous material comprising Al_2O_3 with a titanium source to form a titanium-containing carrier,

drying and calcining the carrier, and

impregnating the calcined carrier with an organic additive, at least one molybdenum and/or tungsten metal source and at least one nickel and/or cobalt metal source,

the amount of the titanium source being sufficient so as to form a catalyst composition at least having a titanium content in the range of 1 to 60 wt.%, expressed as an oxide, TiO_2, based on the total weight of the catalyst and has less than 1.0 wt.% silica expressed as an oxide, SiO_2, based on the total weight of the catalyst.

22. The method of Claims 17, 18 or 21 wherein the organic additive is an organic compound selected from the group consisting of organic compounds comprising at least two

oxygen atoms and 2 - 10 carbon atoms, and the ethers, esters, acetals, acid chlorides, acid amides, oligomers or polymers thereof and the impregnation is performed in a single step with a solution comprising an organic additive, at least one molybdenum and/or tungsten metal source and at least one nickel and/or cobalt metal source.

23. The method of Claims 17, 18 or 21 wherein the organic additive is an organic compound selected from the group consisting of organic compounds comprising at least two oxygen atoms and 2 - 10 carbon atoms, and the ethers, esters, acetals, acid chlorides, acid amides, oligomers or polymers thereof and the impregnation is performed in more than one step, wherein the carrier is impregnated with a solution comprising at least one molybdenum and/or tungsten metal source and at least one nickel and/or cobalt metal source, followed by a step of impregnating the carrier with a solution comprising an organic additive.

24. The method of Claims 17, 18 or 21 further comprising the titanium source being selected from the group consisting of titanyl sulfate, titanium sulfate, titanium alkoxide, or Titanium(IV)bis(ammonium lactato)dihydroxide.

25. A method which comprises contacting a hydrocarbon feed with a catalyst according to any one of claims 1 to 16 or produced according to a method of any one of claims 17 to 24 under hydrotreating conditions so as to hydrotreat the hydrocarbon feed.