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 sulfur containing organic additive component, and

a titanium-containing carrier component,

wherein the amount of titanium content is in the range of 1 to 60 wt%, expressed as an oxide, TiO_2, 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 is 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 is molybdenum and the Group VIII metal is nickel and/or cobalt.

5. The catalyst of Claim 1 wherein the at least one sulfur containing organic component comprises a mercapto carboxylic acid.

6. The catalyst of Claim 5 wherein the mercapto carboxylic acid is thioglycolic acid, thiolactic acid, thiopropionic acid, mercapto succinic acid or cysteine.

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

8. The catalyst of Claim 1 wherein the at least one sulfur containing organic additive component is in amount of 1 to 30 wt% C.

9. The catalyst of Claim 8 wherein the at least one sulfur containing organic additive component is in amount of 1 to 20 wt% C.

10. The catalyst of Claim 9 wherein the at least one sulfur containing organic additive component is in amount of 5 to 15 wt% C.

11. 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 a sulfur containing 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 wt% to 60 wt%, expressed as an oxide, TiO_2, based on the total weight of the catalyst.

12. 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 a sulfur containing organic additive, at least one molybdenum and/or tungsten 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 wt% to 60 wt%, expressed as an oxide, TiO_2, based on the total weight of the catalyst.

13. The method of Claim 12 wherein the precipitation comprises the steps of (a) simultaneous dosing of sodium aluminate and aluminum sulfate to water at a fixed pH (b) the formed alumina filter cake is re-slurried in water (c) to this slurry $TiOSO_4$ or titanium sulfate is added at a fixed pH > 7 controlled by an alkaline solution.

14. The method of Claim 12 wherein the aluminum source and the titanium source are mixed in one stream and sodium aluminate is dosed either simultaneously or subsequently to water at a pH > 7.

15. 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 a sulfur containing organic additive, at least one molybdenum and/or tungsten metal source and/or 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 wt% to 60 wt%, expressed as an oxide, TiO_2, based on the total weight of the catalyst.

16. The method of Claims 11, 12 or 15 further comprising the impregnation with a sulfur containing organic additive, at least one Group VIB metal source and/or at least one Group VIII metal source being performed in a single step with a solution comprising a sulfur containing organic additive, at least one Group VIB metal source and/or at least one Group VIII metal source.

17. The method of Claims 11, 12 or 15 further comprising the impregnation with a sulfur containing organic additive, at least one Group VIB metal source and/or at least one Group VIII metal source being performed in more than one step, wherein the carrier is impregnated with a solution comprising at least one Group VIB metal source and/or at least one Group VIII metal source, followed by a step of impregnating the carrier with a solution comprising a sulfur containing organic additive.

18. The method of Claims 11, 12 or 15 wherein the titanium source is selected from the group consisting of titanyl sulfate, titanium sulfate, titanium alkoxide or Titanium(IV)bis(ammonium lactato)dihydroxide.

19. A method which comprises contacting a hydrocarbon feed with a catalyst according to any one of claims 1 to 10 or obtained by a method according to any one of claims 11 to 18 under hydrotreating conditions so as to hydrotreat the hydrocarbon feed.