CLAIMS

1. A process for making a bulk catalyst comprising nickel tungsten metal oxidic particles, the process comprising the steps of:

   (i) combining nickel and tungsten in water to form a slurry,

   (ii) reacting the nickel and tungsten at a temperature above 100° C. and a pressure above 1 bar, whereby the nickel and tungsten remain at least partly in the solid state during the entire reaction to form the nickel tungsten metal oxidic particles, and

   (iii) forming the bulk catalyst from the nickel tungsten metal oxidic particles.

2. The process according to claim 1, wherein the molar ratio of tungsten to nickel is between 0.2 and 1.5.

3. The process according to claim 1 wherein the bulk catalyst so produced has a metastable hexagonal structure having an X-ray diffraction pattern with a single reflection between 58 and 65° (diffraction angle 20) and main reflections between 32 and 36° and between 50 and 55°.

4. The process according to claim ~~4~~ wherein the main reflections have a full width at half maximum (FWHM) of less than 2.5°.

5. The process according to claim 1, wherein the slurry comprises nickel in the form of carbonate or hydroxy-carbonate having a surface area of at least 150 m^2/g.

6. The process according to claim 1, wherein a Group V metal is combined with said nickel and tungsten to form said slurry, wherein the amount of the Group V metal (relative to 45 tungsten) is between 0.1 and 10 mole %.

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   (i) combining nickel and tungsten in water to form a slurry,

   (ii) reacting the nickel and tungsten at a temperature above 100° C. and a pressure above 1 bar, whereby the nickel and tungsten remain at least partly in the solid state during the entire reaction to form the nickel tungsten metal oxidic particles, and

   (iii) forming the bulk catalyst from the nickel tungsten metal oxidic particles.

2. The process according to claim 1, wherein the molar ratio of tungsten to nickel is between 0.2 and 1.5.

3. The process according to claim 1 wherein the bulk catalyst so produced has a metastable hexagonal structure having an X-ray diffraction pattern with a single reflection between 58 and 65° (diffraction angle 20) and main reflections between 32 and 36° and between 50 and 55°.

4. The process according to claim 3 wherein the main reflections have a full width at half maximum (FWHM) of less than 2.5°.

5. The process according to claim 1, wherein the slurry comprises nickel in the form of carbonate or hydroxy-carbonate having a surface area of at least 150 m^2/g.

6. The process according to claim 1, wherein a Group V metal is combined with said nickel and tungsten to form said slurry, wherein the amount of the Group V metal (relative to 45 tungsten) is between 0.1 and 10 mole %.