CLAIMS

1. A method of processing a slurry biomass feed for liquefaction, said method comprising

i) providing a slurry biomass feed comprising solid biomass, a liquid carrier medium, an active catalyst and a hydrogen source,

ii) transferring the slurry biomass feed to a liquefaction reactor via a preheater to obtain a preheated slurry biomass feed, wherein the residence time of the slurry biomass feed containing hydrogen in the preheater is in the range of about 1 second to about 5 minutes, and

iii) liquefying the preheated slurry biomass feed in the liquefaction reactor,

wherein the temperature of the preheated slurry biomass feed is in the range of about 100 °C to about 300 °C.

2. The method according to claim 1, wherein the residence time in ii) is in the range of about 2 seconds to about 1 minute, preferably in the range of about 3 seconds to about 45 seconds.

3. The method according to any one of the preceding claims, wherein the active catalyst comprises one or more metals from IUPAC group 6, 8, 9 and/or 10 of the Periodic Table of Elements, preferably wherein the active catalyst is an unsupported sulphided NiMo, CoMo, Mo, W and/or any combination thereof.

4. The method according to any one of the preceding claims, wherein the hydrogen source is a gaseous stream.

5. The method according to any one of the preceding claims, wherein the slurry biomass feed is a hydrogen saturated slurry biomass feed.

6. The method according to any one of the preceding claims, wherein the hydrogen content of the slurry biomass feed is in the range of about 0.05 wt% to about 15 wt%, preferably the hydrogen content is less than about 10 wt%, more preferably the hydrogen content is less than about 5 wt%.

7. The method according to any one of the preceding claims, wherein the hydrogen source has been mixed to the slurry biomass feed by the means of a mixer and flashing with gaseous hydrogen.

8. The method according to any one of the preceding claims, wherein the slurry biomass feed is subjected to a pre-heating step in the preheater to provide the preheated slurry biomass feed, preferably the pre-heating step is performed by means of at least one heating step.

9. The method according to claim 8, wherein the pre-heating step comprises multi-stage heating conducted in respective individual heaters.

10. The method according to any one of the preceding claims, wherein the temperature of the preheated slurry biomass feed is in the range of about 150 °C to about 250 °C.

11. The method according to any one of the preceding claims, wherein the slurry biomass feed is processed and/or liquefied in continuous mode.

12. The method according to any one of the preceding claims, wherein the active catalyst is an active hydrogenation catalyst.

13. The method according to any one of the preceding claims, wherein the solid biomass is selected from or comprises algae, lignocellulosic biomass, such as wood chips, saw dust, forestry residue, bark, roots, branches, wood, lignocellulose from agriculture, straw, corn stover, grasses and herbs, forage crops, oat husks, rice husks, construction waste, and/or mixtures thereof.

14. The method according to any one of the preceding claims, wherein a liquefied biomass product is obtained by the method.

15. A method for producing a liquefied biomass product wherein the method comprises the method steps according to any one of the claims 1 to 14.