

Claims:

1. A process for monitoring the operation of hydrodeoxygenation of a feedstock, comprising the steps of
- 5 - directing the feedstock to contact a material catalytically active in hydrotreatment,
- 10 - monitoring the temperature in multiple locations of said catalytically active material, and
- providing an indication in a means for process monitoring when the difference between the temperature in a first location of said catalytically active material and the temperature in a second location of said catalytically active material is above a specified threshold value, optionally for a specified time of operation,
- 15
- 20 wherein the difference between the temperature in said first location of said catalytically active material and the temperature in said second location of said catalytically active material is below said specified threshold value during an initial time of operation.
- 25
2. Process according to claim 1, wherein the means for process monitoring is a control room screen or submission of a message via local or remote means of communication
- 30 such as email, SMS or web-page.

3. Process according to claim 1 or 2 where the specified threshold is either defined as an absolute difference in temperature or defined as a relative value, compared to a difference in temperature such as the difference in temperature from the inlet of said catalytically active material to the outlet of said catalytically active material.

4. Process according to claim 3, wherein the threshold value is an absolute difference in temperature of 10°C, 20°C or 40°C.

5. Process according to claim 3, wherein the threshold is a relative threshold of 10%, 20% or 40% of the difference in temperature from the inlet of said catalytically active material to the outlet of said catalytically active material.

6. Process according to claim 1, 2, 3, 4 or 5, wherein the difference in temperature from the inlet of said catalytically active material to the outlet of said catalytically active material is from 40°C or 80°C to 150°C or 200°C.

7. Process according to claim 1, 2, 3, 4, 5 or 6, wherein the feedstock comprises one or more oxygenates selected from the group consisting of triglycerides, fatty acids, resin acids, ketones, aldehydes and alcohols, said oxygenates originating from one or more of a biological source, a gasification process, a pyrolysis process, Fischer-Tropsch synthesis, methanol-based synthesis or a further synthesis process,

with the associated benefit of such a process being a process viable for receiving a wide range of feedstocks, especially of renewable origin.

5

8. Process according to claim 7, wherein the feedstock originates from plants, algae, animals, fish, vegetable oil refining, domestic waste or industrial organic waste, such as tall oil or black liquor.

10

9. Process according to any of the claims 1, 2, 3, 4, 5, 6, 7 or 8, wherein the material which is catalytically active in hydrotreatment consists of one or more catalyst layers designed for fixed-bed hydrodeoxygenation purposes.

10. Process according to any of the claims 1, 2, 3, 4, 5, 6, 7, 8 or 9, wherein part of the outlet from the HDO reactor is recycled to the inlet of the HDO reactor and/or a diluent, that does not contain oxygen, is added to the inlet of the HDO reactor.

11. Process according to claims 1, 2, 3, 4, 5, 6, 7, 8, 9 or 10, wherein a mixture of a renewable feedstock and a fossil feedstock is co-processed.

12. Process according to claim 1 wherein the feedstock mixture contains up to about 10 %, 20% or 50% renewables.