

SUPERINTENDENCIA DE INDUSTRIA Y COMERCIO

DIRECCIÓN DE NUEVAS CREACIONES

Application No. : NC2019/0010154
Title : PROCEDIMIENTO DE RECUPERACIÓN ASISTIDA DE
PETRÓLEO UTILIZANDO UN (CO) POLÍMERO DE UNA
ESTRUCTURA CRISTALINA HIDRATADA DEL ÁCIDO 2-
ACRILAMIDO-2-METILPROPANO
Applicant : S.P.C.M. SA
Filed : September 19, 2019

DECLARATION

I, Johann Kieffer, citizen of France declares and say that:

1. I am one of the inventors of the above-identified application, serial number NC2019/0010154 (the "Application"), filed with the Colombian. Patent Office on September 19, 2019, which is a national phase entry under section 371 of International Application No. PCT/FR2018/050652, filed on March 19, 2018, which claims priority to European Application No. 1752288, filed on March 20, 2017; .and I am familiar with the subject matter thereof.

2. I have a residence in Andrezieux Boutheon, France.

3. I obtained an engineering degree from Ecole Centrale de Marseille, and a Master of Science Degree in organic and living chemistry from Université d'Aix-Marseille 3.

4. I am employed as the R&D Head of Department Process & Chemistry at SNF, which is located in Andrezieux Boutheon, France, and is owned by S.P.C.M. SA, the Applicant and Assignee of the above-identified application (hereinafter, "the Applicant"). I have been employed at SNF since 2010. Before joining SNF, I spent about three years as a process engineer. Upon joining SNF, I spent eight years as an R&D project manager, then assumed my current position in 2018. Through my employment with SNF, I have been

responsible for, inter alia, engaging in, and overseeing research and development in the polymer science field.

5. I have reviewed read the Office Action mailed November 17, 2020 and the references cited therein and am familiar with the subject matter thereof.

6. I have reviewed and understand the contents of the instant Application, which is directed to a hydrated crystalline form of 2-acrylamido-2-methylpropanesulphonic acid (AMPS), and methods of manufacturing said crystalline form of AMPS.

7. Pending Claim 1 recites that the hydrated crystalline form of AMPS has a powder X-ray diffraction pattern including peaks at 10.58 °, 11.2 °, 12.65 °, 13.66 °, 16.28 °, 18.45 °, 20 °, 20.4 °, 22.5 °, 25.5 °, 25.88 °, 26.47 °, 28.52 °, 30.28 °, 30.8 °, 34.09 °, 38.19 °, 40.69 °, 41.82 °, 43.74 °, 46.04 ° degrees 2- theta, all peak values being +/- 0.1°(hereinafter, “the hydrated crystalline form”).

8. In the Office Action No. 13899, the Examiner considers that Claims 1 to 15 lack inventive step in light of the disclosures of the U.S. patent No.4,337,215 (hereinafter, “D2”). Particularly, in said Office Action it was stated that D2 already suggested that the AMPS compound being provided as a crystal, it could be recrystallized to obtain a purified crystal and that said purification influenced the properties of the obtained polymer as observed in the Table of D2.

9. In the Office Action No. 13899, the Examiner refers to a reference book which relates to crystalline compounds in organic chemistry, namely “Caira 1999” [Mino R. Caira, «Crystalline Polymorphism of Organic Compounds», en Design of Organic Solids, ed. Edwin Weber et al., vol. 198, Topics in Current Chemistry (Berlin, Heidelberg: Springer Berlin Heidelbe rg, 1998), 163-208, https://doi.org/10.1007/3-540-69178-2_5].

10. I hereby declare that the purification of the AMPS crystal by a usual method such as the one disclosed in D2 does not lead to obtain the hydrated crystalline form.

11. I hereby declare that it was not possible to anticipate the existence of the hydrated crystalline form: this hydrated crystalline form being new, there is no prior knowledge leading to consider that it can exist, except to presuppose that it exists.

12. I hereby declare that it is not because the skilled person knows that there are probably still unknown crystalline forms that it is obvious for him/her to find and identify them.

13. I hereby declare that even if we admit that the skilled person could consider, after reading Cairn 1999 or any other reference book on crystalline compounds in organic chemistry, that there may be a new crystalline form of AMPS (which was not obvious), nothing could obviously allow him/her to find said hydrated crystalline form.

14. I hereby declare that the fact that a person skilled in the art could identify a new crystalline form of AMPS (which was not obvious) does not mean that it was obvious to isolate this new crystalline form, let alone the hydrated crystalline form.

15. I hereby declare that the effect that is shown in the Application on Enhanced Oil Recovery (EOR) on the (co) polymer obtained from the crystalline hydrated form, once identified, was not predictable. Indeed, it was not enough to notice, possibly, a different technical effect during use; still needed that this effect be improved compared to the one of the known crystalline form of AMPS as described on D2.

16. It is believed that the foregoing discussion presented herewith sufficiently evidence the non-obviousness of the claimed invention in view of D2.

17. I declare that all statements made herein of my own knowledge are believed to be true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, and that such willful false statements may jeopardize the validity of the above-identified application or any patent issuing thereon.

This 12 day of February, 2021



_____:

Johann Kieffer