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**Datasheet for the decision
of 6 November 2009**

Case Number: T 1631/06 - 3.3.10

Application Number: 97950339.8

Publication Number: 0886719

IPC: E21B 37/06

Language of the proceedings: EN

Title of invention:

A process and a formulation to inhibit scale in oil field production

Applicant:

INEOS EUROPE LIMITED

Opponent:

-

Headword:

Precipitation squeeze method/INEOS

Relevant legal provisions:

EPC Art. 54

Relevant legal provisions (EPC 1973):

-

Keyword:

"Novelty (yes) - no direct and unambiguous disclosure"

Decisions cited:

G 0010/93

Catchword:

-



Case Number: T 1631/06 - 3.3.10

D E C I S I O N
of the Technical Board of Appeal 3.3.10
of 6 November 2009

Appellant: INEOS EUROPE LIMITED
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Decision under appeal: **Decision of the Examining Division of the
European Patent Office posted 18 May 2006
refusing European application No. 97950339.8
pursuant to Article 97(1) EPC 1973.**

Composition of the Board:

Chairman: R. Freimuth
Members: J. Mercey
D. S. Rogers

Summary of Facts and Submissions

- I. The appeal lodged on 18 July 2006 lies from the decision of the Examining Division dated 18 May 2006 refusing European patent application No. 97950339.8 with the European publication No. 886 719 and International publication No. WO 98/30783.
- II. The Examining Division found that the subject-matter of the then pending main request and auxiliary request lacked novelty (Article 54 EPC) over the disclosure of document (1):

(1) WO-A-96 22451.

More particularly, the formulation of independent claim 23 of the then pending main request was anticipated by Example 1 of document (1) and the process of claim 1 of the then pending auxiliary request was anticipated by claim 1 in combination with Example 1 of document (1).

- III. With a letter dated 2 November 2009, the Appellant (Applicant) submitted a set of 21 claims which superseded all previous requests, the only independent claim, claim 1, reading as follows:

"A process for minimising the number of squeezing and shut-in operations needed to inhibit scale and thereby increase the production rate from an oil well using the precipitation squeeze method, said process comprising injecting into an oil-bearing rock formation matrix a water-miscible formulation comprising:

- a) a water-miscible surfactant which is in liquid form,
- (b) a solution of a water-soluble metal salt comprising a multivalent cation and
- (c) a solution of a water-miscible scale-inhibiting compound comprising an anionic component capable of forming a scale inhibiting precipitate in situ in the presence of the cations in (b) upon injection into in the rock formation matrix,

characterised in that the surfactant (a) is a glycol ether and the minimum ion concentration of the scale inhibiting compound (c) is 5000 ppm based on the total weight of the formulation, said components (a) - (c) being introduced either as a pre-formed single homogeneous composition, or simultaneously in parallel or sequentially in either order into the rock formation matrix wherein the pH value of the formulation is so controlled that prior to introduction thereof into the rock formation matrix the components of the formulation are in solution whereas upon injection into the rock formation matrix and under the conditions of pH and temperature prevalent or created in said matrix, the pH of the solution varies to a value so as to generate in situ a precipitate of the scale inhibitor when compound (c) is in contact with the compound (b)."

- IV. The Appellant submitted that claim 1 was a combination of original claims 1 and 19 and thus complied with the requirements of Article 123(2) EPC. Furthermore, the subject-matter of claim 1 was novel, since the prior art did not disclose adjusting the conditions such that material was precipitated on the rock formation.

- V. The Appellant requested, as its main request, that the decision under appeal be set aside and a patent be granted on the basis of claims 1 to 21 submitted with a letter dated 2 November 2009, or, as an auxiliary request, that these claims be remitted to the department of first instance for further prosecution. The Appellant indicated that on the basis that the Board intended to grant one of these requests, it would not attend the oral proceedings.
- VI. At the end of the oral proceedings, which were held on 6 November 2009 in the absence of the Appellant, the decision of the Board was announced.

Reasons for the Decision

1. The appeal is admissible.
2. *Amendments (Article 123(2) EPC)*
 - 2.1 Claim 1 is based on original claims 1 and 19. Dependent claims 2 to 21 correspond to original claims 2 to 18 and 20 to 22. Therefore, the amendments made to the claims do not generate subject-matter extending beyond the content of the application as filed and the Board concludes that the requirements of Article 123(2) EPC are satisfied.
3. *Novelty*
 - 3.1 Document (1), cited in the decision under appeal as anticipating the subject-matter of the then pending requests, discloses in Example 1 a homogeneous

formulation which contains a surfactant comprising a glycol ether; sea water, which is a solution of a water-soluble metal salt comprising a multivalent cation; and Dequest® 2060S, which is a scale-inhibiting compound comprising an anionic component capable of forming a scale inhibiting precipitate *in situ* in the presence of the cations in seawater upon injection into in the rock formation matrix in the sense of the application in suit. According to claim 1 of document (1), the water-miscible formulations of the invention are introduced either as a pre-formed single homogeneous composition, or simultaneously in parallel or sequentially in either order into the rock formation. The pH of the formulation is adjusted so that the formulation remains homogeneous prior to injection into the rock formation matrix (cf. Example 3, page 9, lines 6 to 13 and 25 to 28; Example 5, page 11, lines 22 to 23 and Example 6, page 12, lines 6 to 18).

- 3.2 The process of the application in suit is novel over the disclosure of document (1): although said document describes controlling the pH of the formulation so that it remains homogeneous prior to injection, it does not disclose that the pH of the formulation prior to injection should be controlled in relation to the pH and temperature prevalent or created in the rock formation, such that upon injection into the rock formation the pH of the formulation varies to a value so as to generate a precipitate of the scale inhibitor *in situ*.

In the only examples in document (1) wherein a formulation is actually injected into a (simulated) oil-bearing rock formation, namely in Examples 5 and 6,

there is no indication that a precipitate is formed in the sandstone core or sandpack. Furthermore, in the general description of document (1) (cf. page 3, line 7 and page 4, lines 2 to 7), it is merely stated that the pH of the formulation prior to injection is within the preferred range of from 0.1 to 6.0, there being no indication that this pH should be controlled *vis-à-vis* the conditions prevalent or created in the rock formation matrix in order to generate a precipitate of the scale inhibitor upon injection. There is thus no direct and unambiguous disclosure of the subject-matter of claim 1 in document (1).

- 3.3 Therefore, the Board concludes that the subject-matter of claim 1 is novel within the meaning of Articles 52(1) and 54 EPC.

4. *Remittal*

The decision under appeal dealt exclusively with lack of novelty over document (1). A request containing claim 1 in the present form, without any product claim, was not considered, as such a request was never submitted to the first instance. The amendments leading to the fresh claim 1, in particular the restriction of the scope of the claim to a process wherein a precipitate is generated by pH control, and the deletion of all claims to a formulation *per se*, mean that the reasons given in the contested decision for refusing the present application no longer apply.

Thus, the Board considers that the amendments made by the Appellant remove all the objections on which the decision under appeal was based and that present

claim 1 generates a fresh case not yet addressed in examination proceedings.

Article 111(1) EPC gives the Boards of Appeal the power to raise fresh issues in *ex-parte* proceedings where the application has been refused on other issues. However, proceedings before the Boards of Appeal in *ex-parte* cases are primarily concerned with examining the contested decision (see decision G 10/93, OJ EP0 1995, 172, points 4 and 5 of the reasons). Fresh issues are normally left to the Examining Division to consider after a referral back. For these reasons, the Board does not accede to the Appellant's main request for grant of a patent.

Under these circumstances, the examination not having been concluded, the Board considers it appropriate to accede to the Appellant's auxiliary request, and to exercise the power conferred on it by Article 111(1) EPC to remit the case to the Examining Division for further prosecution upon the basis of claims 1 to 21 submitted with a letter dated 2 November 2009.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.
2. The case is remitted to the department of first instance for further prosecution on the basis of claims 1 to 21 submitted with a letter dated 2 November 2009.

The Registrar:

The Chairman:

C. Rodríguez Rodríguez

R. Freimuth