

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

PCT

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY
(PCT Rule 43bis.1)**

To:

see form PCT/ISA/220

Date of mailing
(day/month/year) see form PCT/ISA/210 (second sheet)

Applicant's or agent's file reference
see form PCT/ISA/220

FOR FURTHER ACTION
See paragraph 2 below

International application No.
PCT/US2011/037647

International filing date (day/month/year)
24.05.2011

Priority date (day/month/year)
08.06.2010

International Patent Classification (IPC) or both national classification and IPC
INV. C10M169/04

Applicant
DOW CORNING CORPORATION

1. This opinion contains indications relating to the following items:

- Box No. I Basis of the opinion
- Box No. II Priority
- Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- Box No. IV Lack of unity of invention
- Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step and industrial applicability; citations and explanations supporting such statement
- Box No. VI Certain documents cited
- Box No. VII Certain defects in the international application
- Box No. VIII Certain observations on the international application

2. **FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will usually be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA:



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Date of completion of this opinion

see form PCT/ISA/210

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Box No. I Basis of the opinion

1. With regard to the **language**, this opinion has been established on the basis of:
 - the international application in the language in which it was filed
 - a translation of the international application into , which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1 (b)).
2. This opinion has been established taking into account the **rectification of an obvious mistake** authorized by or notified to this Authority under Rule 91 (Rule 43bis.1(a))
3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, this opinion has been established on the basis of a sequence listing filed or furnished:
 - a. (means)
 - on paper
 - in electronic form
 - b. (time)
 - in the international application as filed
 - together with the international application in electronic form
 - subsequently to this Authority for the purposes of search
4. In addition, in the case that more than one version or copy of a sequence listing has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
5. Additional comments:

Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	<u>2, 3</u>
	No: Claims	<u>1, 4</u>
Inventive step (IS)	Yes: Claims	
	No: Claims	<u>1-4</u>
Industrial applicability (IA)	Yes: Claims	<u>1-4</u>
	No: Claims	

2. Citations and explanations

see separate sheet

Box No. VII Certain defects in the international application

The following defects in the form or contents of the international application have been noted:

see separate sheet

Box No. VIII Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

see separate sheet

Re Item V

Reference is made to the following documents:

- D1 GB 1 535 265 A (DOW CORNING) 13 December 1978 (1978-12-13)
- D2 EP 0 108 369 A2 (DOW CORNING [US]) 16 May 1984 (1984-05-16)
- D3 EP 0 805 185 A2 (DOW CORNING [US]) 5 November 1997 (1997-11-05)
- D4 GB 2 086 922 A (WACKER CHEMIE GMBH) 19 May 1982 (1982-05-19)

D1 is concerned with hydraulic fluids consisting of polydiorganosiloxanes (89.5-94.75 wt%, component A1), 5-10 wt% chlorendates (component B) and 0.25 to 0.5 wt% of antimony or lead dithiocarbamates or phosphorodithioates (claim 1). The examples disclose a trimethylsilyl endblocked polydimethylsiloxane having a viscosity of $0.5 \cdot 10^{-6} \text{ m}^2/\text{s}$ (50 cSt) at 25°C which falls within the scope of component (A1) of the present invention. The compositions disclosed in examples 1, 2, 7 and 8 fall within the scope of the claims of the present invention. The performance of said compositions is tested in a wear scar tests summarized in examples 5 and 6.

Claims 1 and 4 are not novel over D1 (Art. 33 (2) PCT).

D2 discloses hydraulic fluids comprising a polydiorganosiloxane having a viscosity from about $1.00 \cdot 10^{-5} \text{ m}^2/\text{s}$ to $1.00 \cdot 10^{-6} \text{ m}^2/\text{s}$, a chlorendated diester and antimony or lead dithiocarbamates or phosphorodithioates (claim 1). The "parts by weight" disclosed in the examples have to be normed to 100 parts by weight without the copolymer. The recalculated values fall within the range of the present application.

Claims 1 and 4 are not novel over D2 (Art. 33 (2) PCT).

D1 and D2 are silent on polydiorganosiloxane mixtures comprising aryl substituted derivatives.

Therefore, claims 2 and 3 are novel (Art. 33 (2) PCT).

Starting with any of D1 and D2 the problem to be solved is to provide alternative hydraulic fluids.

Hydraulic fluids comprising aryl (phenyl) substituted polysiloxane are known in the art (D4: claim 1). D3 also discloses such fluids in combination with chlorendated diesters (p. 3, l. 15-56).

Therefore, in the light of D3 and D4 the subject-matter of claims 2 and 3 is obvious and said claim lack inventive step over the combination of any of D1 and D2 with any of D3 and D4 (Art. 56 EPC).

Re Item VII

Contrary to the requirements of Rule 5.1 (a) (ii) PCT, the relevant background art disclosed in the applicant's own D1 and D2 is not mentioned in the description, nor are those documents identified therein. The specification does not appreciate a single prior art document.

Re Item VIII

The application lacks clarity under Art. 6 PCT for the following reasons:

- 1 Claim 3 as drafted is unclear. The claims should be drafted as follows: The composition of claims 1 or 2 comprising 30 to 40 parts of component (A1) (...), 50 to 60 parts of component (A2) (...) and R is methyl (...).
- 2 Claim 3 specifies a substituent R'" which is not disclosed in the previous claims.
- 3 The features "in a process" and "the improvement which comprises" of claim 4 is unclear.