

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter I of the Patent Cooperation Treaty)

(PCT Rule 44bis)

Applicant's or agent's file reference 74722-WO-PCT	FOR FURTHER ACTION	See item 4 below
International application No. PCT/US2015/013656	International filing date (<i>day/month/year</i>) 30 January 2015 (30.01.2015)	Priority date (<i>day/month/year</i>) 13 February 2014 (13.02.2014)
International Patent Classification (8th edition unless older edition indicated) See relevant information in Form PCT/ISA/237		
Applicant DOW GLOBAL TECHNOLOGIES LLC		

1.	This international preliminary report on patentability (Chapter I) is issued by the International Bureau on behalf of the International Searching Authority under Rule 44 bis.1(a).																								
2.	This REPORT consists of a total of 7 sheets, including this cover sheet.																								
In the attached sheets, any reference to the written opinion of the International Searching Authority should be read as a reference to the international preliminary report on patentability (Chapter I) instead.																									
3.	This report contains indications relating to the following items: <table style="width: 100%;"> <tr> <td style="width: 5%; text-align: center;">☒</td> <td style="width: 25%;">Box No. I</td> <td style="width: 70%;">Basis of the report</td> </tr> <tr> <td style="text-align: center;">☐</td> <td>Box No. II</td> <td>Priority</td> </tr> <tr> <td style="text-align: center;">☐</td> <td>Box No. III</td> <td>Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</td> </tr> <tr> <td style="text-align: center;">☐</td> <td>Box No. IV</td> <td>Lack of unity of invention</td> </tr> <tr> <td style="text-align: center;">☒</td> <td>Box No. V</td> <td>Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</td> </tr> <tr> <td style="text-align: center;">☐</td> <td>Box No. VI</td> <td>Certain documents cited</td> </tr> <tr> <td style="text-align: center;">☒</td> <td>Box No. VII</td> <td>Certain defects in the international application</td> </tr> <tr> <td style="text-align: center;">☒</td> <td>Box No. VIII</td> <td>Certain observations on the international application</td> </tr> </table>	☒	Box No. I	Basis of the report	☐	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 Article 35(2) with regard to novelty, inventive step or 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
☒	Box No. I	Basis of the report																							
☐	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 Article 35(2) with regard to novelty, inventive step or 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																							
4.	The International Bureau will communicate this report to designated Offices in accordance with Rules 44bis.3(c) and 93bis.1 but not, except where the applicant makes an express request under Article 23(2), before the expiration of 30 months from the priority date (Rule 44bis .2).																								

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland Facsimile No. +41 22 338 82 70	Date of issuance of this report 16 August 2016 (16.08.2016) Authorized officer Mineko Mohri e-mail: pt08.pct@wipo.int
--	---

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

To:
see form PCT/ISA/220

PCT

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

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/US2015/013656	International filing date (day/month/year) 30.01.2015	Priority date (day/month/year) 13.02.2014
--	--	--

International Patent Classification (IPC) or both national classification and IPC
INV. C08J5/18 B29D7/01 B32B27/32 B32B3/20

Applicant
DOW GLOBAL TECHNOLOGIES LLC

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.

Name and mailing address of the ISA:  European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Fax: +49 89 2399 - 4465	Date of completion of this opinion see form PCT/ISA/210	Authorized Officer Telephone No. +49 89 2399-0 
--	--	--

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:
 - a. ☐ forming part of the international application as filed:
 - ☐ in the form of an Annex C/ST.25 text file.
 - ☐ on paper or in the form of an image file.
 - b. ☐ furnished together with the international application under PCT Rule 13ter.1(a) for the purposes of international search only in the form of an Annex C/ST.25 text file.
 - c. ☐ furnished subsequent to the international filing date for the purposes of international search only:
 - ☐ in the form of an Annex C/ST.25 text file (Rule 13ter.1(a)).
 - ☐ on paper or in the form of an image file (Rule 13ter.1(b) and Administrative Instructions, Section 713).
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 forming part of 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>2-5, 14</u>
	No: Claims	<u>1, 6-13</u>
Inventive step (IS)	Yes: Claims	
	No: Claims	<u>1-14</u>
Industrial applicability (IA)	Yes: Claims	<u>1-14</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

Reasoned statement with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

Reference is made to the following documents:

- D1 WO 2013/096714 A1 (DOW GLOBAL TECHNOLOGIES LLC [US]) 27 June 2013 (2013-06-27)
- D2 WO 2012/094315 A1 (DOW GLOBAL TECHNOLOGIES LLC [US]; KOOPMANS RUDOLF J [CH]; ZALAMEA BUST) 12 July 2012 (2012-07-12)
- D3 WO 2012/094317 A1 (DOW GLOBAL TECHNOLOGIES LLC [US]; ZALAMEA BUSTILLO LUIS G [CH]; BONGAR) 12 July 2012 (2012-07-12)

- 1 The present application does not meet the criteria of Article 33(2) PCT, because the subject-matter of claims 1,6-13 is not new.

D1 discloses a microcapillary film comprising channels having a diameter of at least 1 μm , and hence a circular cross section and an aspect ratio of 1:1 (claim 1). The microcapillary film of D1 comprises from 20 to 90 % by volume of voidage based on the total volume of the microcapillary film (D1: p. 4, l. 4-6) and has a thickness of 2-2000 μm (D1: claim 1). D1 does not mention the method of measuring the film thickness (ASTM D374M-13). However, the skilled person knows how to measure a film thickness and the absence of said norm ASTM D374M-13 from D1 does not render the subject-matter of claim 1 novel over D1.

Claims 6,7,9-13 are also not novel over D1 (D1: claims; p. 7, l. 15/16).

Claims 1,6,7,9-13 are also not novel over any one of D2 and D3. In addition, claim 8 relating to the melt index or melt flow rate of polyethylene is not novel over D3 (see D3, p. 20, l. 1-6).

- 2 The present application does not meet the criteria of Article 33(3) PCT, because the subject-matter of claims 2-5 and 14 does not involve an inventive step over any one of D1, D2 and D3.

Claims 2-5 and 14 are dependent claims. Starting from, e.g., D1 as closest prior art for the subject-matter of claim 1, the problem to be solved by those dependent claims can be seen as to provide alternative microcapillary films having certain mechanical properties. Searching for microcapillary films having such properties is a matter of routine experimentation for the skilled person, also because the materials according to the present application, and hence their mechanical properties, would not appear to be different from those disclosed in D1 (or D2 or D3). This becomes evident by comparing the present description with the description of the applications D1-D3.

Thus, dependent claims 2-5 and 14 do not contain any features which, in combination with the features of any claim to which they refer, meet the requirements of the PCT in respect of inventive step.

It is noted that the comparative examples on file do not comprise microcapillaries (application p. 14, l. 5-6) and hence no attempt has been made to compare with the closest prior art, e.g. document D1.

Re Item VII

Certain defects in the international application

- 3 Contrary to the requirements of Rule 5.1(a)(ii) PCT, the relevant background art disclosed in D1-D3 is not mentioned in the description, nor are these documents identified therein.
- 4 The units employed on pages 14-20 are not additionally expressed in terms of the units stipulated by Rule 10.1/(a)/and/(b) PCT.
- 5 According to the requirements of Rule 11.13(l) reference signs not appearing in the description shall not appear in the drawings, and vice versa. This requirement is not met in view of the reference to Fig. 3b and Figs. 3a-3e on p. 13, l. 20-21, said Figures not existing.

Re Item VIII

Certain observations on the international application

- 6 Claim 1 defines that the channels have a certain diameter. A diameter implies a circular cross-section and an aspect ratio of 1:1. Hence the feature of claim 1 that the aspect ratio can be anything from 1:1 to 100:1 cannot be reconciled

with a circular cross-section and the feature of claim 11 that the cross-section can be of any shape cannot be reconciled with a circular cross-section. In this sense claims 1 and 11 lack clarity and consistency (Art 6 PCT).

The word "comprise" at l. 7 of claim 1 should read "comprises".

- 7 The feature of thickness in claim 2 is superfluous, since the thickness is already a feature of claim 1.
- 8 Claim 10 can depend on claim 6 disclosing polyamide as a thermoplastic material and cannot depend on claim 2.
- 9 The vague and imprecise statement in the description on page 13, l. 22-24 implies that the subject-matter for which protection is sought may be different to that defined by the claims, thereby resulting in lack of clarity (Article 6 PCT) when used to interpret them.
- 10 Any expression of the type "incorporated by reference" relating to cited prior art should be deleted upon entering the regional phase before the EPO.