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| <b>PATENT ASSIGNMENT COVER SHEET</b> |
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Electronic Version v1.1  
 Stylesheet Version v1.2

EPAS ID: PAT5768218

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|---|---------------------------------|
| <b>SUBMISSION TYPE:</b>   | NEW ASSIGNMENT                  |
| <b>NATURE OF CONVEYANCE:</b>  | ASSIGNMENT                      |
| <b>CONVEYING PARTY DATA</b>   |                                 |
| <b>Name</b>   | <b>Execution Date</b>           |
| JORDAN THOMAS KOPPING   | 01/13/2018                      |
| MARIE-CLAIRE HERMANT  | 01/18/2018                      |
| NIKOLAUS NESTLE   | 01/18/2018                      |
| ALEXANDER KOEHLER   | 01/18/2018                      |
| KRIS SCHMIDT  | 09/19/2019                      |
| <b>RECEIVING PARTY DATA</b>   |                                 |
| <b>Name:</b>  | BASF SE                         |
| <b>Street Address:</b>  | CARL-BOSCH-STRASSE 38           |
| <b>City:</b>  | LUDWIGSHAFEN                    |
| <b>State/Country:</b>   | GERMANY                         |
| <b>Postal Code:</b>   | 67056                           |
| <b>PROPERTY NUMBERS Total: 1</b>  |                                 |
| <b>Property Type</b>  | <b>Number</b>                   |
| <b>Application Number:</b>  | 16468333                        |
| <b>CORRESPONDENCE DATA</b>  |                                 |
| <b>Fax Number:</b>  | (302)467-4201                   |
| <i>Correspondence will be sent to the e-mail address first; if that is unsuccessful, it will be sent using a fax number, if provided; if that is unsuccessful, it will be sent via US Mail.</i> |                                 |
| <b>Phone:</b>   | 302-467-4200                    |
| <b>Email:</b>   | shirley.brooks@dbr.com          |
| <b>Correspondent Name:</b>  | DRINKER BIDDLE & REATH LLP (WM) |
| <b>Address Line 1:</b>  | 222 DELAWARE AVENUE, STE. 1410  |
| <b>Address Line 4:</b>  | WILMINGTON, DELAWARE 19801-1621 |
| <b>ATTORNEY DOCKET NUMBER:</b>  | 074008-1897(590211)             |
| <b>NAME OF SUBMITTER:</b>   | GEOFFREY ZELLEY                 |
| <b>SIGNATURE:</b>   | /Geoffrey Zelley/               |
| <b>DATE SIGNED:</b>   | 10/14/2019                      |
| <b>Total Attachments: 12</b>  |                                 |
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**Individual Assignment**  
**(including Assignment of Priority Rights)**

The undersigned (hereinafter collectively referred to as "Assignor") has invented an invention as disclosed in the application(s)

| Country         | Application No.   | Filing Date | Application Title                  |
|-----------------|-------------------|-------------|------------------------------------|
| European Patent | 16203641.2        | 13 Dec 2016 | Filaments for use as a geomaterial |
| PCT             | PCT/EP2017/081597 | 06 Dec 2017 | inland deposition marking          |
| Taiwan          | 106143382         | 11 Dec 2017 | "                                  |

(hereinafter collectively referred to as "Application(s)").

I do hereby authorize Assignee or its designee to insert here any further identification(s), including Application Number(s), Filing Date(s), and Filing Country(ies).

As the below named inventor(s), I hereby declare that the above-identified Application(s) was made or authorized to be made by me. I believe that I am the original inventor or an original joint inventor of a claimed invention in the application.

NOW, THEREFORE, for good and valuable consideration, the receipt and adequacy of which is hereby acknowledged, Assignor hereby confirms that Assignor already did, or agrees to and hereby does, assign and transfer unto **BASF SE**, Carl-Bosch-Strasse 38, 67056 Ludwigshafen am Rhein, Germany (hereinafter referred to as "Assignee") and its successors in interest and assignees, the full and exclusive right, title, and interest, throughout the world, including (i) the right to claim priority under the laws of any country, the Paris Convention, and the Patent Cooperation Treaty to the Application(s), (ii) in and to the invention as described in the Application(s) and the Application(s) itself, and (iii) in and to all divisions, continuations, and continuations-in-part, or other applications claiming priority directly or indirectly from the Application(s) and all Letters Patent, utility models, industrial designs, petty patents, design registrations, copyrights, and legal equivalents thereof that may be granted for the invention, and (iv) all reissues, reexaminations and extensions thereof, these and the full and exclusive right, title, and interest to be held and enjoyed by Assignee to the full end of the term for which the Letters Patent are granted and any extensions thereof as fully and entirely as the same would have been held by Assignor had the assignment and sale not been made, and the right to sue for, and recover for past infringements of, or liabilities for, any of the rights relating to any of the applications or patents, utility models, industrial designs, petty patents, design registrations, copyrights, and legal equivalents thereof resulting therefrom.

I do hereby agree to assist Assignee in the prosecution of the application(s) and in any interference, conflict, opposition or litigation which may arise involving the invention or the patent or patents thereon, and to execute for any and all countries any document relating to applications

derived from, corresponding to or equivalent to the above identified application as Assignee may request.

I authorize Assignee or its designee to translate this Assignment into all languages necessary; and we request that such Letters Patent be issued to Assignee; and consent to the recordal of this Assignment, or Notarial True Copy thereof, being under covenant not only that I have full power to make the same, but also that such assigned rights are not encumbered by any grant, license, or other right heretofore given.

(Signature page(s) follow(s))

Subscribed and Declared by:

**Inventor: KOPPING, Jordan Thomas**

At: Jordan Thomas

this 17 day of June, 2018

Signature: Jordan Thomas

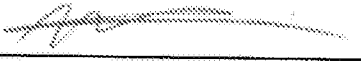
Name: KOPPING, Jordan Thomas  
Address: Carl-Bosch-Strasse 38, 67056 Ludwigshafen  
Country: Germany  
Nationality: United States of America  
Employed by: BASF SE  
Of Country: Germany

Subscribed and Declared by:

Inventor: HERMANT, Marie-Claire

At: LUDWIGSHAFEN, GERMANY

this 18 day of JANUARY, 2018

Signature: 

Name: HERMANT, Marie-Claire  
Address: Carl-Bosch-Strasse 38, 67056 Ludwigshafen  
Country: Germany  
Nationality: France  
Employed by: BASF SE  
Of Country: Germany

Subscribed and Declared by:  
Inventor: **SCHMIDT, Kris**

Place: \_\_\_\_\_  
(City)

Date: \_\_\_\_\_  
(day, month, year)

Signature:  \_\_\_\_\_  
SCHMIDT, Kris

Name: SCHMIDT, Kris  
Address: 10354 Danube Ave, Granada Hills, California 91344  
Country: United States of America  
Nationality: United States of America

Subscribed and Declared by:

**Inventor: NESTLE, Nikolaus**

At: \_\_\_\_\_

this \_\_\_\_\_ day of \_\_\_\_\_, 20 \_\_\_\_\_

Signature: \_\_\_\_\_

Name: NESTLE, Nikolaus  
Address: Carl-Bosch-Strasse 38, 67056 Ludwigshafen  
Country: Germany  
Nationality: Germany  
Employed by: BASF SE  
Of Country: Germany

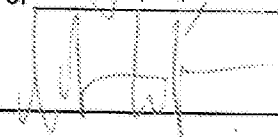


Subscribed and Declared by:

Inventor: KOEHLER, Alexander

At: LUDWIGSHAFEN

this 16 day of January, 20 48

Signature: 

Name: KOEHLER, Alexander  
Address: Carl-Bosch-Strasse 38, 67056 Ludwigshafen  
Country: Germany  
Nationality: Germany  
Employed by: BASF SE  
Of Country: Germany

Assignee Acceptance

Employer, the Assignee: **BASF SE**

hereby accepts the Assignment

from, the Assignor

KOPPING, Jordan Thomas  
HERMANT, Marie-Claire  
NESTLE, Nikolaus  
KOEHLER, Alexander

of the invention as disclosed in the following application(s):

| Country         | Application No.   | Filing Date | Application Title  |
|-----------------|-------------------|-------------|--|
| European Patent | 16203641.2        | 13 Dec 2016 | Filaments for use as a support material in fused deposition modeling |
| PCT (none Prio) | PCT/EP2017/081597 | 06 Dec 2017 | Filaments for use as a support material in fused deposition modeling |
| TW              | 106143382         | 11 Dec 2017 | Filaments for use as a support material in fused deposition modeling |

without any restrictions and with all rights and obligations deriving therefrom and declare that this confirmation of acceptance shall be deemed a part of said Assignment.

Signed and accepted at Ludwigshafen, Germany

this 20th day of Feb, 2018

BASF SE

Vice Presidents

Dr. Alexander Waller

1. NAME / TITLE: Dr. Anke Jacobs

SIGNATURE:

*[Handwritten signature]*  
*[Handwritten signature]*  
(Authorized Representative)

2. NAME / TITLE: \_\_\_\_\_

SIGNATURE: \_\_\_\_\_

(Authorized Representative)

**Individual Assignment**  
**(including Assignment of Priority Rights)**

The undersigned (hereinafter collectively referred to as "Assignor") has invented an invention as disclosed in the application(s)

| Country         | Application No.   | Filing Date |
|-----------------|-------------------|-------------|
| European Patent | 16203641.2        | 13 Dec 2016 |
| PCT             | PCT/EP2017/081597 | 06 Dec 2017 |
| Taiwan          | 106143382         | 11 Dec 2017 |

(hereinafter collectively referred to as "Application(s)").

I do hereby authorize Assignee or its designee to insert here any further identification(s), including Application Number(s), Filing Date(s), and Filing Country(ies).

As the below named inventor(s), I hereby declare that the above-identified Application(s) was made or authorized to be made by me. I believe that I am the original inventor or an original joint inventor of a claimed invention in the application.

NOW, THEREFORE, for good and valuable consideration, the receipt and adequacy of which is hereby acknowledged, Assignor hereby confirms that Assignor already did, or agrees to and hereby does, assign and transfer unto **BASF Corporation**, 100 Park Avenue, 07932 Florham Park, United States of America (hereinafter referred to as "Assignee") and its successors in interest and assignees, the full and exclusive right, title, and interest, throughout the world, including (i) the right to claim priority under the laws of any country, the Paris Convention, and the Patent Cooperation Treaty to the Application(s), (ii) in and to the invention as described in the Application(s) and the Application(s) itself, and (iii) in and to all divisions, continuations, and continuations-in-part, or other applications claiming priority directly or indirectly from the Application(s) and all Letters Patent, utility models, industrial designs, petty patents, design registrations, copyrights, and legal equivalents thereof that may be granted for the invention, and (iv) all reissues, reexaminations and extensions thereof, these and the full and exclusive right, title, and interest to be held and enjoyed by Assignee to the full end of the term for which the Letters Patent are granted and any extensions thereof as fully and entirely as the same would have been held by Assignor had the assignment and sale not been made, and the right to sue for, and recover for past infringements of, or liabilities for, any of the rights relating to any of the applications or patents, utility models, industrial designs, petty patents, design registrations, copyrights, and legal equivalents thereof resulting therefrom.

I do hereby agree to assist Assignee in the prosecution of the application(s) and in any interference, conflict, opposition or litigation which may arise involving the invention or the patent or patents thereon, and to execute for any and all countries any document relating to applications derived from, corresponding to or equivalent to the above identified application as Assignee may request.

I authorize Assignee or its designee to translate this Assignment into all languages necessary; and we request that such Letters Patent be issued to Assignee; and consent to the recordal of this Assignment, or Notarial True Copy thereof, being under covenant not only that I have full power to make the same, but also that such assigned rights are not encumbered by any grant, license, or other right heretofore given.

(Signature page(s) follow(s))

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

**SUBSTITUTE STATEMENT IN LIEU OF AN OATH OR DECLARATION FOR UTILITY  
OR DESIGN PATENT APPLICATION (35 U.S.C. 115(d) AND 37 CFR 1.64)**

**Title of Invention** FILAMENTS FOR USE AS A SUPPORT MATERIAL IN FUSED DEPOSITION MODELING

This statement is directed to:

The attached application,

OR

United States application or PCT international application number 16/468,333 filed on 06/11/2019

**LEGAL NAME of inventor to whom this substitute statement applies:**

(E.g., Given Name (first and middle (if any)) and Family Name or Surname)

Kris SCHMIDT

Residence (except for a deceased or legally incapacitated inventor):

|           |       |                          |
|-----------|-------|--------------------------|
| Cambridge | MA    | United States of America |
| City      | State | Country                  |

Mailing Address (except for a deceased or legally incapacitated inventor):

125 Otis Street

|           |       |       |                          |
|-----------|-------|-------|--------------------------|
| Cambridge | MA    | 02141 | United States of America |
| City      | State | Zip   | Country                  |

I believe the above-named inventor or joint inventor to be the original inventor or an original joint inventor of a claimed invention in the application.

The above-identified application was made or authorized to be made by me.

I hereby acknowledge that any willful false statement made in this statement is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both.

Relationship to the inventor to whom this substitute statement applies:

Legal Representative (for deceased or legally incapacitated inventor only),

Assignee,

Person to whom the inventor is under an obligation to assign,

Person who otherwise shows a sufficient proprietary interest in the matter (petition under 37 CFR 1.46 is required), or

Joint Inventor.

**SUBSTITUTE STATEMENT**

Circumstances permitting execution of this substitute statement:

- Inventor is deceased,
- Inventor is under legal incapacity,
- Inventor cannot be found or reached after diligent effort, or
- Inventor has refused to execute the oath or declaration under 37 CFR 1.63.

If there are joint inventors, please check the appropriate box below:

- An application data sheet under 37 CFR 1.76 (PTO/AIA/14 or equivalent) naming the entire inventive entity has been or is currently submitted.

OR

- An application data sheet under 37 CFR 1.76 (PTO/AIA/14 or equivalent) has not been submitted. Thus, a Substitute Statement Supplemental Sheet (PTO/AIA/11 or equivalent) naming the entire inventive entity and providing inventor information is attached. See 37 CFR 1.64(b).

**WARNING:**

Petitioner/applicant is cautioned to avoid submitting personal information in documents filed in a patent application that may contribute to identify theft. Personal information such as social security numbers, bank account numbers, or credit card numbers (other than a check or credit card authorization form PTO-2038 submitted for payment purposes) is never required by the USPTO to support a petition or an application. If this type of personal information is included in documents submitted to the USPTO, petitioners/applicants should consider redacting such personal information from the documents before submitting them to the USPTO. Petitioner/applicant is advised that the record of a patent application is available to the public after publication of the application (unless a non-publication request in compliance with 37 CFR 1.213(a) is made in the application) or issuance of a patent. Furthermore, the record from an abandoned application may also be available to the public if the application is referenced in a published application or an issued patent (see 37 CFR 1.14). Checks and credit card authorization forms PTO-2038 submitted for payment purposes are not retained in the application file and therefore are not publicly available.

**PERSON EXECUTING THIS SUBSTITUTE STATEMENT:**

Name: Dr. Thomas Cimniak Dr. Olaf Schweers Date (Optional): 19. SEP 2019

Signature:


**APPLICANT NAME AND TITLE OF PERSON EXECUTING THIS SUBSTITUTE STATEMENT:**

If the applicant is a juristic entity, list the applicant name and the title of the signer:

Applicant Name: BASF SE

Title of Person Executing This Substitute Statement: Vice President Vice President

The signer, whose title is supplied above, is authorized to act on behalf of the applicant.

**Residence of the signer (unless provided in an application data sheet, PTO/AIA/14 or equivalent):**

City Ludwigshafen State \_\_\_\_\_ Country Germany

**Mailing Address of the signer (unless provided in an application data sheet, PTO/AIA/14 or equivalent)**

City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_ Country \_\_\_\_\_

Note: Use an additional PTO/AIA/02 form for each inventor who is deceased, legally incapacitated, cannot be found or reached after diligent effort, or has refused to execute the oath or declaration under 37 CFR 1.63.