#### 504835750 03/23/2018

# PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT4882487

| SUBMISSION TYPE:      | NEW ASSIGNMENT |
|-----------------------|----------------|
| NATURE OF CONVEYANCE: | ASSIGNMENT     |

### **CONVEYING PARTY DATA**

| Name                | Execution Date |
|---------------------|----------------|
| KUN XIONG           | 07/14/2017     |
| EMILY RADER         | 08/11/2017     |
| JAMES L. JEFFERSON  | 07/24/2017     |
| FELICE DIMASCIO     | 07/21/2017     |
| DONALD O'BRIEN      | 08/04/2017     |
| NICHOLAS RYAN DENNY | 07/17/2017     |
| GARY TABOR          | 07/14/2017     |
| DAVID R. PAPANEK    | 07/23/2017     |

## **RECEIVING PARTY DATA**

| Name:           | ECOLAB USA INC. |
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| Postal Code:    | 55102           |

### **PROPERTY NUMBERS Total: 2**

| Property Type       | Number    |
|---------------------|-----------|
| Application Number: | 15928749  |
| PCT Number:         | US1823798 |

### **CORRESPONDENCE DATA**

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ATTORNEY DOCKET NUMBER: 14828-3965 (N10979USU1) NAME OF SUBMITTER: ERIC D. BABYCH

PAIENI **REEL: 045336 FRAME: 0019** 504835750

| SIGNATURE:   | /Eric D. Babych/ |  |
|--|------------------|--|
| DATE SIGNED:   | 03/23/2018       |  |
| Total Attachments: 9   |                  |  |
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| source=2018-03-23_AssignmentExecutedAF_N10979USU1_BGL_14828-3965#page9.tif |                  |  |

PATENT REEL: 045336 FRAME: 0020

#### ASSIGNMENT

WHEREAS, We, Kun Xiong, Emily Rader, James L. Jefferson, Felice DiMascio, Donald O'Brien, Nicholas Ryan Denny, Gary Tabor, and David R. Papanek; (the "Inventors"), have invented a certain invention or inventions related to LOW RISK CHLORINE DIOXIDE ONSITE GENERATION SYSTEM and being described in U.S. Provisional Application No. 62/546,890 \_\_\_\_\_, filed on August 17, 2017 \_\_\_\_\_; U.S. Non-provisional Application No. 15/928,749 \_\_\_\_\_, filed on March 22, 2018 \_\_\_\_\_; PCT Application No. PCT/US2018/023798 \_\_\_\_, filed on March 22, 2018 \_\_\_\_\_; and any and all applications claiming the benefit thereof including the right of priority (the "Invention" or "Inventions"). (We hereby consent to the patent attorney entering the serial numbers and filing dates when they become known).

AND WHEREAS, ECOLAB USA INC., a corporation organized and existing under and by virtue of the laws of the State of Delaware, and having an office and place of business at 1 Ecolab Place, St. Paul, Minnesota 55102 (hereinafter "Assignee") is desirous of acquiring the entire right, title and interest in and to said inventions, improvements and application and in and to the Letters Patent to be obtained therefor;

For valuable and legally sufficient consideration, receipt of which is hereby acknowledged, the Assignors hereby, assign, transfer and set over to Assignee, its successors and assigns, the entire right, title and interest in and to the above-identified invention and patent application and all rights and privileges under any Letters Patent of the United States which may issue thereon.

The Assignors also assign, transfer and set over to Assignee the entire right, title and interest in and to the invention and any patent application and Letters Patent that may be granted thereon in all countries foreign to the United States, including all rights under the International Convention. The Assignors further authorize Assignee to apply for Letters Patent in foreign countries in the name of Assignee, and to claim the priority of the filing date of the United States Patent Application under the provisions of the International Convention.

The Assignors further agree to assist Assignee in the prosecution of the patent application before the United States Patent Office and the Federal Courts, and any other applications for Letters Patent including renewals, continuations, divisions, reissues and substitutions, that the Assignee elects to make covering the invention. The Assignors vest in Assignee like exclusive title in and to all such

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other applications and Letters Patent. The Assignors will execute and deliver to Assignee any documents which may be requested by Assignee to carry out the terms of this Assignment.

The Commissioner of Patents of the United States is authorized and requested to issue any and all Letters Patent of the United States to Assignee. The Assignors also authorize and request the equivalent authorities in foreign countries to issue the patents of foreign countries to Assignee.

IN TESTIMONY WHEREOF, the Assignors have executed this agreement.

| L.K.   | Date: 7-14-17   |
|--|---|
| Kun Xiong  |   |
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| City, State, Postal Code, Country Nape   | eville, 16 60565, USA   |
| STATE OF //LINO IS   |   |
| STATE OF 1/LINO IS ) COUNTY OF DUPAGE)   | OFFICIAL SEAL LAURA D PILLING NOTARY PUBLIC - STATE OF ILLINOIS |
| Subscribed and sworn to before me this <u>/Y/I</u> day of <u>VII</u> , <b>20</b> 17. | NY COMMISSION EXPIRES:05/01/20                                  |
| Daya Ming  |   |
| Notary Publid  |   |
| In situations where no notary is available, 2 s signature.                           | vitnesses may sign witnessing the inventor                      |
| Witnessed by:  |   |
| Full Name:   |   |
| Date:  |   |
| Witnessed by:  |   |
| Full Name:   |   |
| Date:  |   |

Page 2 of 9

| Gently Rode, Date: 8/11/17   |
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|  |
| STATE OF TOTAL CONTROL OF THE STATE OF THE S |
| COUNTY OF SS   |
| Subscribed and sworn to before me  |
| 1his <u>II_day of _handr</u>   |
| Notary Public  |
| In situations where no notary is available, 2 witnesses may sign witnessing the inventor signature.  |
| Witnessed by:  |
| Full Name:   |
| Date:  |
| Witnessed by:  |
| Full Name:   |
| Date:  |

| Date: 24 July 2017   |
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| City, State, Postal Code, Country DALLAL GA 301517, WS A                                 |
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| STATE OF (A)   |
| )ss  |
| COUNTY OF COLD   |
| Subscribed and sworn to before me  |
| this 24 day of 14 y 2017.  |
|  |
| Notary Public  |
| Trotaly i gons:  |
| In situations where no notary is available, 2 witnesses may sign witnessing the inventor |
| signature.   |
| Witnessed by: Du public  |
| Full Name: Blur M. Douge!  |
| Date: 72417  |
| All Cara in  |
| Witnessed by:  |
| Full Name: <u>Mark Manager</u> // Date: 7-24-17  |

| 10/-// Date: 215ULZ017  |
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| COUNTY OF Hartford  |
| Subscribed and sworn to before me this 2017.  JOHN H. HANSON, JR.                                   |
| NOTARY PUBLIC MY COMMISSION EXPIRES OCT. 31, 2020 Notary Public                                     |
| In situations where no notary is available, 2 witnesses may sign witnessing the inventor signature. |
| Witnessed by:   |
| rui Name:   |
| Date:   |
| Witnessed by:   |
| Full Name:  |
|   |

| Date: 8/4/2  | 017  |
|--|--|
| Date: 8/4/2  | UT   |
| Street Address 383 Brittany Ct, Unit D   | •••• <u>•</u>  |
| City, State, Postal Code, Country Grena 1/6 60134  |  |
| STATE OF /LLINUIS  COUNTY OF DUPAGE  )SS   |  |
| COUNTY OF DUPAGE  JUBI LAB OFFICIAL Subscribed and sworn to before me this <u>f</u> day of <u>Augus 3 r</u> 2017.  September | . SEAL<br>late of Illinois<br>on Expires   |
| Jusi LaBartus<br>Motory Public   | the state of the s |
| In situations where no notary is available, 2 witnesses may sign witnessin<br>signature.                                     | g the inventor   |
| Witnessed by:  |  |
| Full Name:   |  |
| Date:  |  |
| Witnessed by:  |  |
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| 724/72  | Date: 7/17/17  |
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| STATE OF /LLINO 15  | CONTRACTOR OF STATE O |
| COUNTY OF DUPPOE  | OFFICIAL SEAL LAURA D PILLING NOTARY PUBLIC - STATE OF ILLINOIS  |
| Subscribed and sworn to before me<br>this ZIHday of SZULY_, 2017. | MY COMMISSION EXPRES 0501/20   |
| Dava Waira  |  |
| Notar Public  |  |
| In situations where no notary is available, 2 witr signature.     | nesses may sign witnessing the inventor  |
| Witnessed by:   |  |
| Full Name:  |  |
| Date:   |  |
| Witnessed by:   |  |
| Full Name;  |  |

| and the second s | Date: 7-14-17  |
|--|--|
| Gary Tubbr   |  |
| Street Address 1389 E. BRAYE. City, State, Postal Code, Country NAPERV.  |  |
| STATE OF /LLINOIS  Subscribed and sworn to before me this I'll day of ULL 2017.  Notary Public   | OFFICIAL SEAL LAUPA D PILLING NOTARY PUBLIC - STATE OF ILLINOIS WY COMMISSION EXPIRES 05/01/20 |
| In situations where no notary is available, 2 witne signature.   | sses may sign witnessing the inventor  |
| Witnessed by:  |  |
| Full Name:   |  |
| Date:  |  |
| Witnessed by:Full Name:  |  |
| Date:  |  |

| ATTORNEY I | DOCKET NO. | 14828-3787 | (PT10979USP1) |
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|------------|------------|------------|---------------|

| Sant Plant   | Date: 7/23/2017   |
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| David R. Papanek   |   |
| Street Address 2929 ALBINE DELL  |   |
| City, State, Postal Code, Country SEENSHAW   | <u>PAISUL U</u> SA  |
| STATE OF PENNSYLVANIA  SSS  COUNTY OF ALLS & MENY  Subscribed and sworn to before me this 23 day of VLY  Notary Public | COMMONWEALTH OF PENNSYLVANIA  NOTARIAL SEAL  Mary J. Shaw, Notary Public  City of Pittsburgh, Allegheny County  My Commission Expires Nov. 13, 2028  BENSER, FERNSYLVANIA ASSOCIATION OF ROTASSES |
| In situations where no notary is available, 2 witnesse signature.  | s may sign witnessing the inventor  |
| Witnessed by:  |   |
| Witnessed by:  |   |
| Full Name:   |   |
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PATENT REEL: 045336 FRAME: 0029