

## LISTING OF CLAIMS

1. (Currently Amended) An antimicrobial composition comprising:
  - (a) at least one isothiazolin-3-one selected from the group consisting of 1,2-benzisothiazolin-3-one, N-(n-butyl)-1,2-benzisothiazolin-3-one, and combinations thereof ~~4,5-dichloro-2-n-octyl-4-isothiazolin-3-one, and dithio-2,2'-bis(benzmethylamide)~~;
  - (b) at least one zinc compound selected from the group consisting of zinc salts, zinc oxides, zinc hydroxides, and combinations thereof; and
  - (c) at least one polymer base medium,wherein said isothiazolin-3-one is present in an amount of from 1 to 500 ppm, wherein the zinc compound is present in an amount of from 5 to 200,000 ppm, and wherein the weight ratio of the isothiazolin-3-one to the zinc compound is from 1:2000 to 100:1.
2. (Original) The composition of claim 1 wherein component (a) is present in an amount of from 1 to 500 ppm, component (b) is present in an amount of from 5 to 200,000 ppm, and the weight ratio is from 1:100 to 100:1.
3. (Original) The composition of claim 1 wherein component (a) is present in an amount of from 5 to 500 ppm, and component (b) is present in an amount of from 5 to 500 ppm.
- 4-9. (Cancelled)
10. (Currently Amended) A functional fluid composition comprising:
  - a polymer emulsion; and
  - a wet state preservative comprising at least one isothiazolin-3-one selected from the group consisting of 1,2-benzisothiazolin-3-one, N-(n-butyl)-1,2-benzisothiazolin-3-one, and combinations thereof ~~4,5-dichloro-2-n-octyl-4-isothiazolin-3-one, and dithio-2,2'-bis(benzmethylamide)~~, and at least one zinc compound selected from the group consisting of zinc salts, zinc oxides, zinc hydroxides, and combinations thereof,wherein said wet state preservative is present in said fluid composition in a total amount from about 10 ppm to about 400 ppm, and wherein the molar ratio of the

at least one isothiazolin-3-one to the at least one zinc compound is from about 4:1 and about 1:2.

11-14. (Cancelled)

15. (Original) The composition of claim 10 which further comprises a co-biocide selected from the group consisting of pyrrhione salts, pyrrhione acids, and combinations thereof, and wherein said co-biocide is present in said composition in an amount of from about 0.001 to about 1.0% w/w based on the total weight of said composition.

16. (Original) The composition of claim 15 wherein said pyrrhione salts are selected from the group consisting of copper pyrrhione, zinc pyrrhione, sodium pyrrhione, and combinations thereof.

17. (Currently Amended) A coating composition comprising:  
a base medium selected from the group consisting of paints, adhesives, sealants, caulks, mineral and pigment slurries, printing inks, agricultural pesticide formulations, household coating products, personal care products, metal working fluids, and combinations thereof; and

a wet state preservative comprising at least one isothiazolin-3-one selected from the group consisting of 1,2-benzisothiazolin-3-one, N-(n-butyl)-1,2-benzisothiazolin-3-one, and combinations thereof~~4,5-dichloro-2-n-octyl-4-isothiazolin-3-one, and dithio-2,2'-bis(benzmethylamide)~~, and at least one zinc compound selected from the group consisting of zinc salts, zinc oxides, zinc hydroxides, and combinations thereof,

wherein said wet state preservative is present in said coating composition in a total amount from about 10 ppm ~~and to~~ about 400 ppm, and wherein the molar ratio of the at least one isothiazolin-3-one and the at least one zinc compound is from about 4:1 to about 1:2.

18. (Cancelled)

19. (Currently Amended) An antimicrobial composition comprising:  
(a) at least one isothiazolin-3-one selected from the group consisting of 1,2-benzisothiazolin-3-one, N-(n-butyl)-1,2-benzisothiazolin-3-one, and combinations thereof~~4,5-dichloro-2-n-octyl-4-isothiazolin-3-one, and dithio-2,2'-bis(benzmethylamide)~~;

(b) at least one zinc oxide; and

(c) a polymer comprising a plurality of monomers selected from a group consisting of acrylic acid, methacrylate, styrene/butadiene, ethylene vinyl acetate, polyvinyl acetate, styrene/butadiene/N-methylol acrylamide, and nitrile,

wherein said isothiazolin-3-one is present in an amount from 1 to 500 ppm, wherein the zinc oxide is present in an amount from 5 to 200,000 ppm, and wherein the weight ratio of the isothiazolin-3-one to the zinc oxide is from 1:100 to 100:1.

20. (Cancelled)

21. (Previously Presented) The composition of claim 19 wherein component (a) is present in an amount of from 5 to 500 ppm, and component (b) is present in an amount of from 5 to 500 ppm.

22-23. (Cancelled)

24. (Previously Presented) The antimicrobial composition of claim 19 which further comprises a co-biocide selected from the group consisting of pyrithione salts, pyrithione acids, and combinations thereof, and wherein said co-biocide is present in said composition in an amount of from about 0.001 to about 1% w/w based on the total weight of said composition.

25-28. (Cancelled)

### **REMARKS**

Favorable reconsideration and allowance of the present application in view of the foregoing amendments and following remarks are respectfully requested.

Claims 1-3, 10, 15-17, 19, 21, and 24, including independent claims 1, 10, 17, and 19, are pending in the present application. The pending claims are directed to an antimicrobial composition, a functional fluid composition, and a coating composition.

Claim 1 is directed to an antimicrobial composition comprising (a) at least one isothiazolin-3-one selected from the group consisting of 1,2-benzisothiazolin-3-one, N-(n-butyl)-1,2-benzisothiazolin-3-one, and combinations thereof, (b) at least one zinc compound selected from the group consisting of zinc salts, zinc oxides, zinc hydroxides, and combinations thereof, and (c) at least one polymer base medium. The isothiazolin-3-one is present in an amount of from 1 to 500 ppm. The zinc compound is present in an amount of from 5 to 200,000 ppm. The weight ratio of the isothiazolin-3-one to the zinc compound is from 1:2000 to 100:1.

Claim 10 is directed to a functional fluid composition comprising a polymer emulsion and a wet state preservative. The wet state preservative comprises at least one isothiazolin-3-one selected from the group consisting of 1,2-benzisothiazolin-3-one, N-(n-butyl)-1,2-benzisothiazolin-3-one, and combinations thereof and at least one zinc compound selected from the group consisting of zinc salts, zinc oxides, zinc hydroxides, and combinations thereof. The wet state preservative is present in the fluid composition in a total amount from about 10 ppm to about 400 ppm. The molar ratio of the at least one isothiazolin-3-one to the at least one zinc compound is from about 4:1 and about 1:2.

Claim 17 is directed to a coating composition comprising a base medium and a wet state preservative. The base medium is selected from the group consisting of paints, adhesives, sealants, caulks, mineral and pigment slurries, printing inks, agricultural pesticide formulations, household coating products, personal care products, metal working fluids, and combinations thereof. The wet state preservative comprises at least one isothiazolin-3-one selected from the group consisting of 1,2-benzisothiazolin-3-one, N-(n-butyl)-1,2-benzisothiazolin-3-one, and combinations thereof and at least one zinc compound selected from the group consisting of zinc salts,

zinc oxides, zinc hydroxides, and combinations thereof. The wet state preservative is present in the coating composition in a total amount from about 10 ppm to about 400 ppm. The molar ratio of the at least one isothiazolin-3-one and the at least one zinc compound is from about 4:1 to about 1:2.

Claim 19 is directed to an antimicrobial composition comprising (a) at least one isothiazolin-3-one selected from the group consisting of 1,2-benzisothiazolin-3-one, N-(n-butyl)-1,2-benzisothiazolin-3-one, and combinations thereof, (b) at least one zinc oxide, and (c) a polymer comprising a plurality of monomers selected from a group consisting of acrylic acid, methacrylate, styrene/butadiene, ethylene vinyl acetate, polyvinyl acetate, styrene/butadiene/N-methylol acrylamide, and nitrile. The isothiazolin-3-one is present in an amount from 1 to 500 ppm. The zinc oxide is present in an amount from 5 to 200,000 ppm. The weight ratio of the isothiazolin-3-one to the zinc oxide is from 1:100 to 100:1.

Claims 1, 10, 17, and 19 have been amended to provide that the at least one isothiazolin-3-one is selected from the group consisting of 1,2-benzisothiazolin-3-one, N-(n-butyl)-1,2-benzisothiazolin-3-one, and combinations thereof. Support for this amendment can be found on page 4, ¶ [0015] of the present specification. Applicants respectfully submit that no new matter has been entered by way of this amendment.

I. Examiner Interview

Applicants thank Examiner Soroush for the courtesies extended during the telephone interview on July 23, 2013. During the interview, the parties discussed the rejection of the claims under 35 U.S.C. § 103 in view of Wiese and Burdick. During the interview, the Examiner indicated that the amendments and arguments presented herewith overcome the current rejection. Applicants thank Examiner Soroush for his time and participation in the interview.

II. Drawings

Applicants have submitted Figures 1-5 in the Replacement Sheets attached to this Amendment in compliance with 37 CFR § 1.121(d). The replacement drawings have been submitted to clean up the figures and remove any stray marks. Therefore, Applicants respectfully submit that the replacement drawings do not contain any new matter.

III. Rejection of Claims Under 35 U.S.C. § 103 in View of Wiese, Janchitraponvej, and Burdick

In the Office Action, claims 1-3, 10, 15, 16, 17, 19, 21, and 24, including independent claims 1, 10, 17, and 19, were rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,227,156 to Wiese (hereinafter "Wiese") in view of U.S. Patent No. 5,221,530 to Janchitraponvej et al. (hereinafter "Janchitraponvej") and further in view of U.S. Patent No. 6,433,056 to Burdick et al. (hereinafter "Burdick"). However, for the reasons set forth below, Applicants respectfully submit that the combination of Wiese, Janchitraponvej, and Burdick fails to render the pending claims as obvious.

Wiese is directed to the use of zinc compounds to stabilize a thiazolinone preservative in an anti-dandruff shampoo. Weise, Title and Abstract. According to Wiese, when preservatives are incorporated in the anti-dandruff shampoo, other ingredients, such as zinc pyrithiones, react adversely with the preservative and reduce its activity. Wiese, col. 1, lines 17-20. Wiese indicates that this in turn reduces its ability to prevent or reduce microbiological contamination. Wiese, col. 1, lines 20-24. However, when Wiese refers to preservatives, Wiese is only concerned with alkyl thiazolinones. For instance, according to Wiese, the preservative is selected from the group consisting of 5-chloro-2-alkyl-4-isothiazolin-3-one, 2-alkyl-4-isothiazolin-3-one, and mixtures thereof. Wiese, col. 3, lines 19-21. The alkyl is selected from the group consisting of methyl, ethyl, propyl, or butyl, and mixtures thereof. Wiese, col. 3, lines 21-23. Wiese is specifically concerned with the adverse reactions between zinc pyrithiones and alkyl thiazolinones. Nowhere does Wiese teach or suggest the use of aryl thiazolinones as required by the pending claims. Because alkyl groups and aryl groups generally exhibit different properties and Wiese fails to provide any motivation, a person of ordinary skill in the art would not be motivated to substitute the alkyl thiazolinones of Wiese with aryl thiazolinones.

The Office Action relies on Burdick to teach or suggest the aryl thiazolinones of the pending claims. However, Applicants respectfully submit that a person of ordinary skill in the art would not be motivated to modify the composition of Wiese to incorporate the aryl thiazolinone of Burdick. First of all, Wiese is only concerned with alkyl

thiazolinones. Secondly, Burdick is directed to aqueous suspensions used as thickeners for aqueous systems wherein the suspensions are of hydrophobically modified polyacrylates, polyurethanes, and poly(acetal- or ketal-polyethers). Burdick, Abstract. Burdick notes that the preservatives listed are suitable for the aqueous suspensions of water-soluble hydrophobically modified polyacrylates, polyurethanes, and poly(acetal- or ketal-polyethers) and carbon containing salts. Nowhere does Wiese teach or suggest these hydrophobically modified polymers and carbon containing salts such that a person of ordinary skill in the art would be motivated to substitute the alkyl thiazolinone with the aryl thiazolinone as suggested in the Office Action.

In addition, neither Wiese nor Burdick indicate that the aryl thiazolinones would be suitable specifically for anti-dandruff shampoo compositions. In particular, Wiese only refers to the use of alkyl thiazolinones. Since aryl groups and alkyl groups generally exhibit different properties, there is nothing in the disclosures of Wiese or Burdick that would indicate to a person of ordinary skill in the art that the alkyl thiazolinones of Wiese can be replaced with aryl thiazolinones. Additionally, in light of the differences in the minimum inhibitory concentrations of the aryl thiazolinones and the alkyl thiazolinones as indicated in the present specification (Examples 2-4), there is nothing in the disclosures of Wiese or Burdick to indicate that the aryl thiazolinones would be suitable for the purposes of Wiese in the preferred amounts of 15 ppm in the shampoo composition.

In addition, Wiese is concerned with reducing the adverse reactions between other ingredients, such as zinc pyrithiones, and the alkyl thiazolinones. Generally, when the concentration of thiazolinone in the composition is increased, one would expect that a higher opportunity for adverse reactions is presented. As such, there is nothing in the disclosure of Wiese or Burdick to motivate a person of ordinary skill in the art to utilize an aryl thiazolinone in combination with the alkyl thiazolinone in Wiese. In fact, utilizing additional thiazolinone in the composition of Wiese would be in direct contrast to the objectives of Wiese, which is to prevent or reduce the adverse reactions with the thiazolinones. Additionally, as stated above, in light of the differences in the minimum inhibitory concentrations of the aryl thiazolinones and the alkyl thiazolinones as indicated in the present specification (Examples 2-4), there is nothing in the disclosures

of Wiese or Burdick to indicate that the combination of alkyl thiazolinones and aryl thiazolinones would be suitable for the purposes of Wiese in the preferred amounts of 15 ppm in the shampoo composition.

Thus, Applicants respectfully submit that a person of ordinary skill in the art having common sense at the time of the invention would not have reasonably considered embedding an aryl thiazolinone within the anti-dandruff shampoo composition in the manner suggested by the Office Action. See Ex Parte Green, Appeal 2007-1271, June 12, 2007. Therefore, for the reasons set forth above, Applicants respectfully submit that the combination of Wiese, Janchitraponvej, and Burdick fails to render the pending claims as obvious.

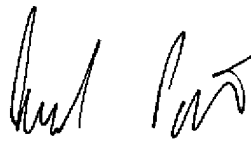
IV. Conclusion

In summary, Applicants respectfully submit that the presently pending claims are in complete condition for allowance. However, should any issues remain after consideration of this response, then Examiner Soroush is invited and encouraged to telephone the undersigned at his convenience.

Please charge any fees required by this response and credit any overpayment to Deposit Account No. 04-1403.

Respectfully submitted,

DORITY & MANNING, P.A.



Anand K. Patel  
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7/25/2013

Date

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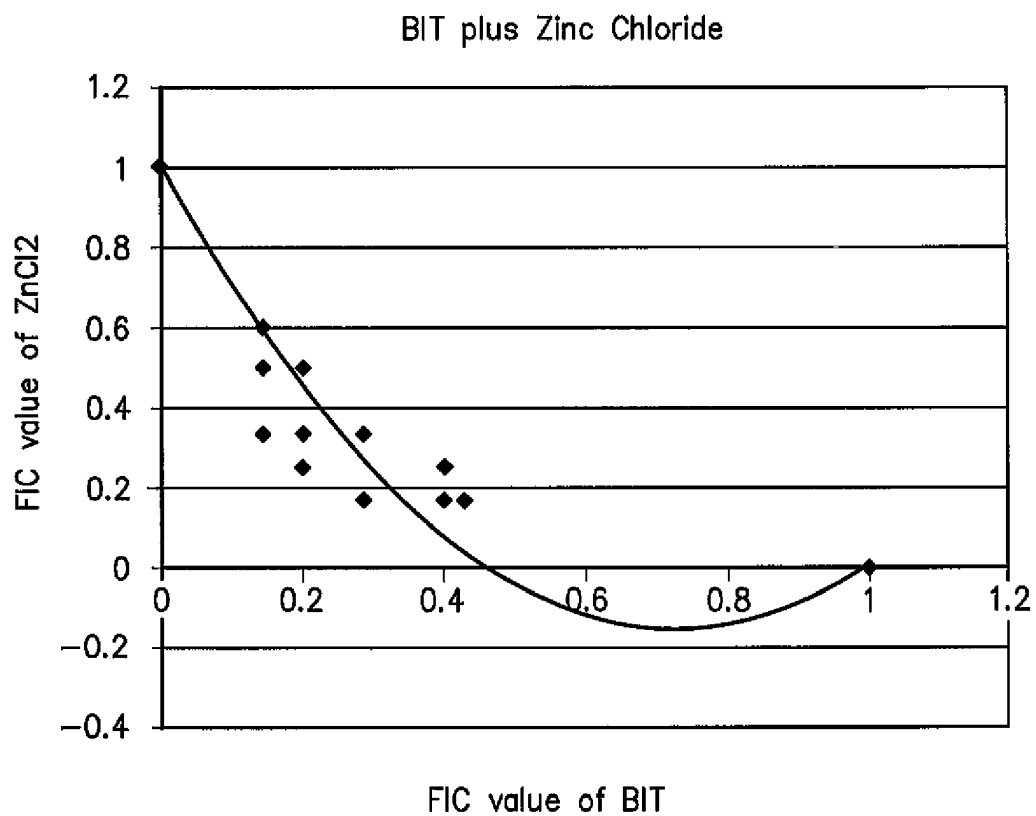


FIG. 1

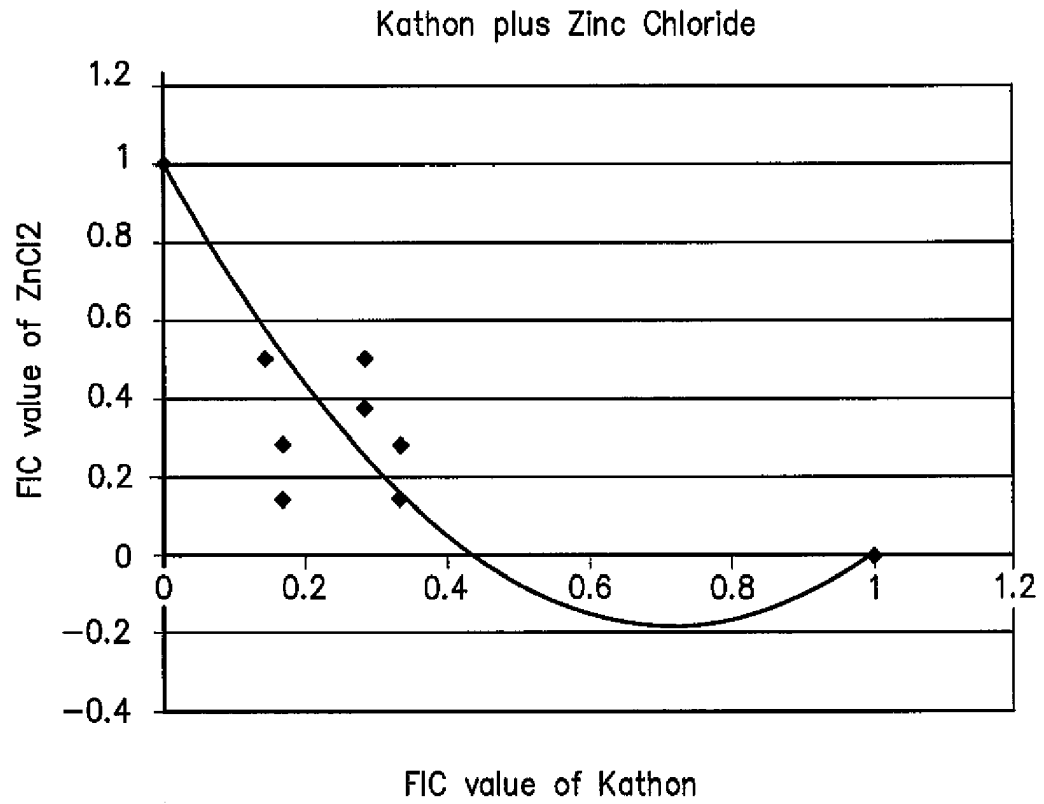


FIG. 2

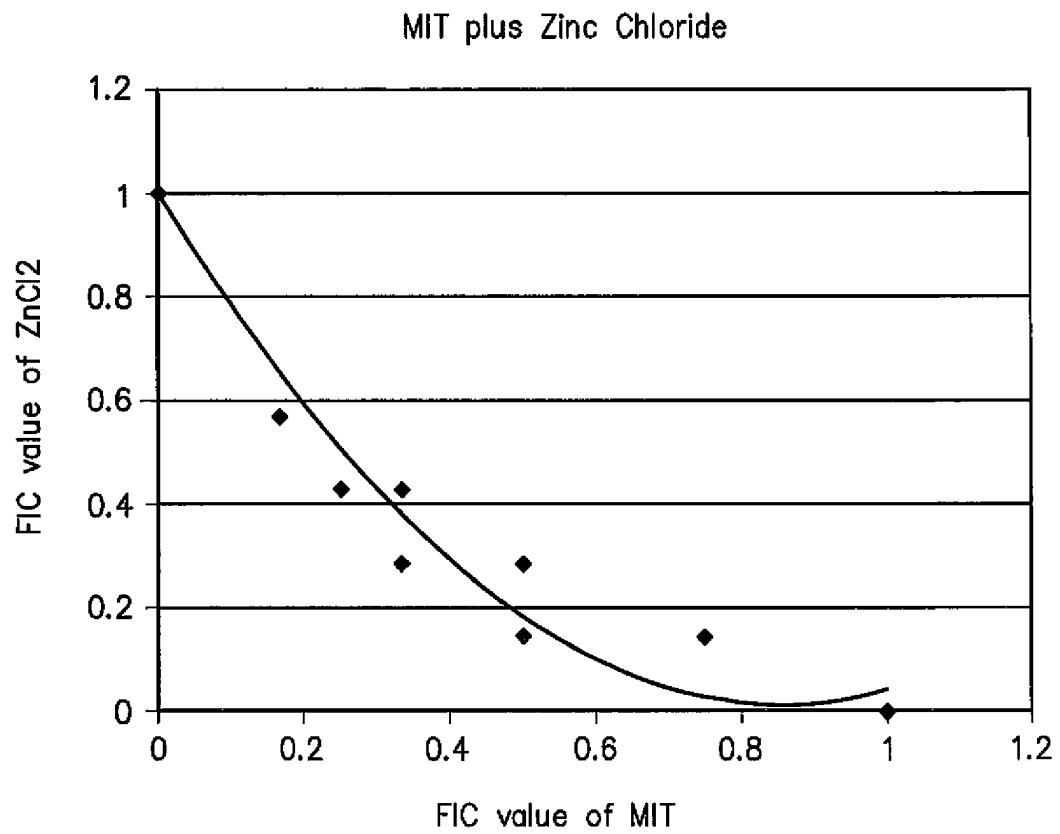


FIG. 3

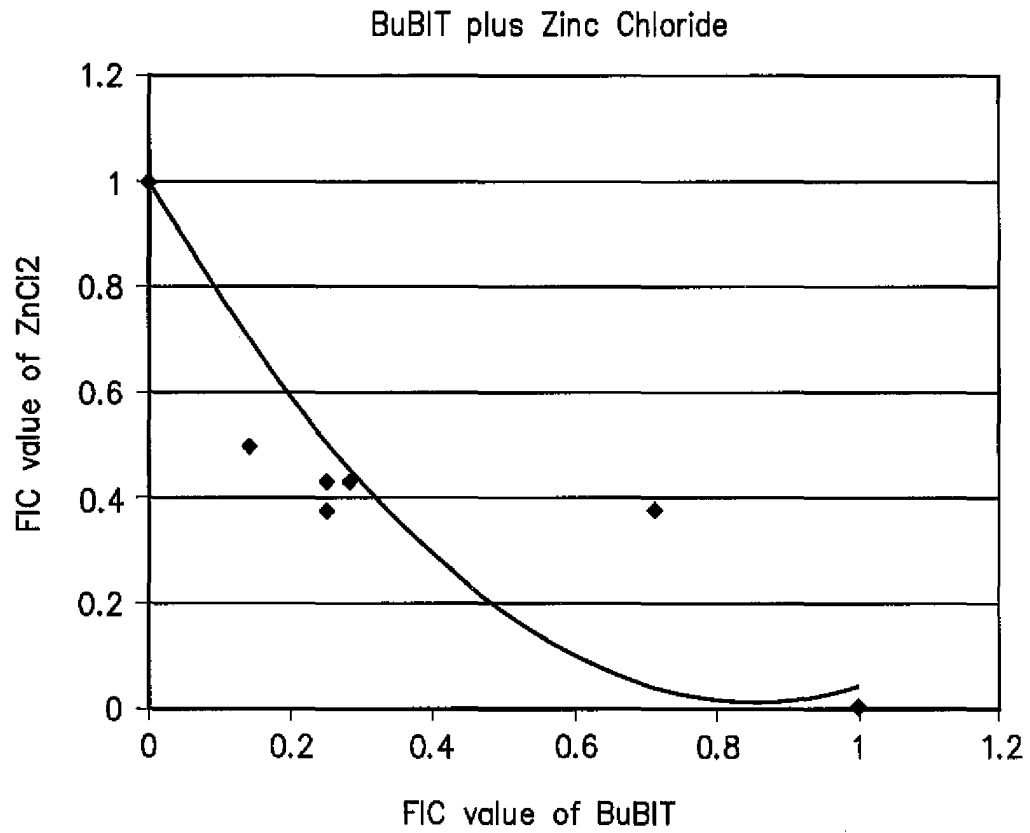


FIG. 4

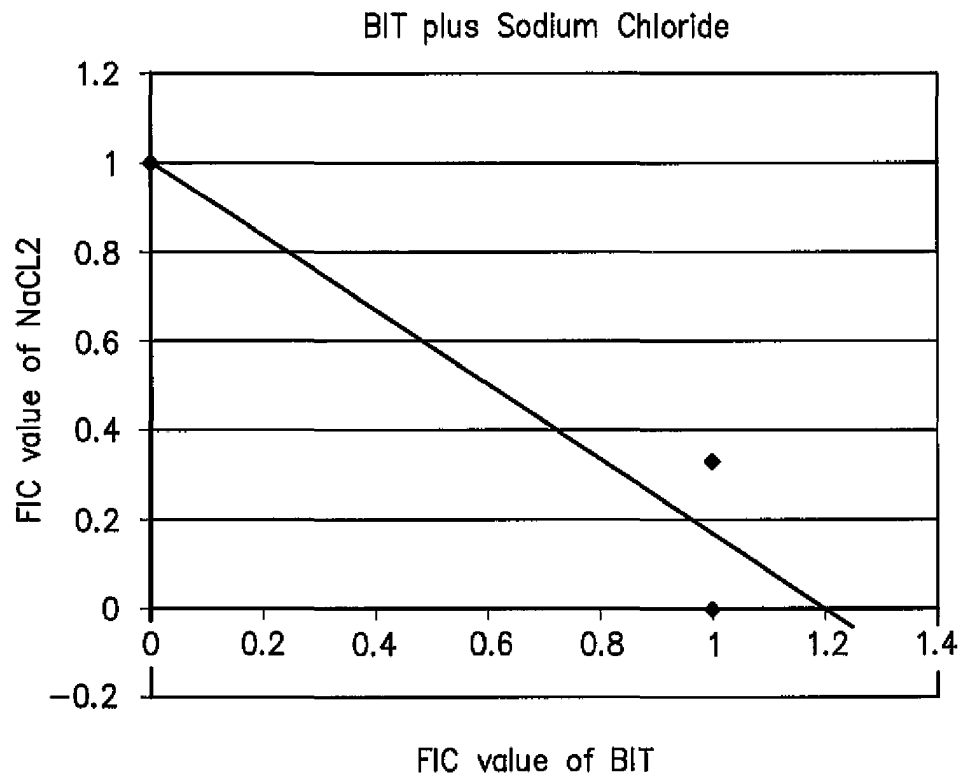
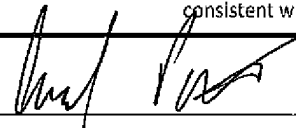


FIG. 5

<b>CERTIFICATION AND REQUEST FOR CONSIDERATION UNDER THE AFTER FINAL CONSIDERATION PILOT PROGRAM 2.0</b>		
<b>Practitioner Docket No.:</b> <b>LZA-15</b>	<b>Application No.:</b> <b>11/805,779</b>	<b>Filing Date:</b> <b>May 24, 2007</b>
<b>First Named Inventor:</b> <b>Nicholas Edward Thompson</b>	<b>Title:</b> <b>Isothiazolinone Biocides Enhanced By Zinc Ions</b>	
<p>APPLICANT HEREBY CERTIFIES THE FOLLOWING AND REQUESTS CONSIDERATION UNDER THE AFTER FINAL CONSIDERATION PILOT PROGRAM 2.0 (AFCP 2.0) OF THE ACCOMPANYING RESPONSE UNDER 37 CFR 1.116.</p> <ol style="list-style-type: none"> <li>1. The above-identified application is (i) an original utility, plant, or design nonprovisional application filed under 35 U.S.C. 111(a) [a continuing application (e.g., a continuation or divisional application) is filed under 35 U.S.C. 111(a) and is eligible under (i)], or (ii) an international application that has entered the national stage in compliance with 35 U.S.C. 371(c).</li> <li>2. The above-identified application contains an outstanding final rejection.</li> <li>3. Submitted herewith is a response under 37 CFR 1.116 to the outstanding final rejection. The response includes an amendment to at least one independent claim, and the amendment does not broaden the scope of the independent claim in any aspect.</li> <li>4. This certification and request for consideration under AFCP 2.0 is the only AFCP 2.0 certification and request filed in response to the outstanding final rejection.</li> <li>5. Applicant is willing and available to participate in any interview requested by the examiner concerning the present response.</li> <li>6. This certification and request is being filed electronically using the Office's electronic filing system (EFS-Web).</li> <li>7. Any fees that would be necessary consistent with current practice concerning responses after final rejection under 37 CFR 1.116, e.g., extension of time fees, are being concurrently filed herewith. [There is no additional fee required to request consideration under AFCP 2.0.]</li> <li>8. By filing this certification and request, applicant acknowledges the following:               <ul style="list-style-type: none"> <li>• Reissue applications and reexamination proceedings are not eligible to participate in AFCP 2.0.</li> <li>• The examiner will verify that the AFCP 2.0 submission is compliant, i.e., that the requirements of the program have been met (see items 1 to 7 above). For compliant submissions:                   <ul style="list-style-type: none"> <li>○ The examiner will review the response under 37 CFR 1.116 to determine if additional search and/or consideration (i) is necessitated by the amendment and (ii) could be completed within the time allotted under AFCP 2.0. If additional search and/or consideration is required but cannot be completed within the allotted time, the examiner will process the submission consistent with current practice concerning responses after final rejection under 37 CFR 1.116, e.g., by mailing an advisory action.</li> <li>○ If the examiner determines that the amendment does not necessitate additional search and/or consideration, or if the examiner determines that additional search and/or consideration is required and could be completed within the allotted time, then the examiner will consider whether the amendment places the application in condition for allowance (after completing the additional search and/or consideration, if required). If the examiner determines that the amendment does not place the application in condition for allowance, then the examiner will contact the applicant and request an interview.                       <ul style="list-style-type: none"> <li>▪ The interview will be conducted by the examiner, and if the examiner does not have negotiation authority, a primary examiner and/or supervisory patent examiner will also participate.</li> <li>▪ If the applicant declines the interview, or if the interview cannot be scheduled within ten (10) calendar days from the date that the examiner first contacts the applicant, then the examiner will proceed consistent with current practice concerning responses after final rejection under 37 CFR 1.116.</li> </ul> </li> </ul> </li> </ul> </li> </ol>		
<b>Signature</b> 	<b>Date</b> <b>July 25, 2013</b>	
<b>Name (Print/Typed)</b> <b>Anand K. Patel</b>	<b>Practitioner Registration No.</b> <b>70,705</b>	
<p><b>Note:</b> This form must be signed in accordance with 37 CFR 1.33. See 37 CFR 1.4(d) for signature requirements and certifications. Submit multiple forms if more than one signature is required, see below*.</p>		
<p><input checked="" type="checkbox"/> * Total of <u>1</u> forms are submitted.</p>		

## Electronic Acknowledgement Receipt

<b>EFS ID:</b>	16411800
<b>Application Number:</b>	11805779
<b>International Application Number:</b>	
<b>Confirmation Number:</b>	3981
<b>Title of Invention:</b>	Isothiazolinone biocides enhanced by zinc ions
<b>First Named Inventor/Applicant Name:</b>	Nicholas Edward Thompson
<b>Customer Number:</b>	22827
<b>Filer:</b>	Anand Kalyanbhai Patel/Megan Howard
<b>Filer Authorized By:</b>	Anand Kalyanbhai Patel
<b>Attorney Docket Number:</b>	361430 00335
<b>Receipt Date:</b>	25-JUL-2013
<b>Filing Date:</b>	24-MAY-2007
<b>Time Stamp:</b>	11:18:15
<b>Application Type:</b>	Utility under 35 USC 111(a)

### Payment information:

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### File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		LZA-15_Amendment_7252013.pdf	413929 275e90f7943c83426b748abdb96f1d2c4aac790b	yes	18

	Multipart Description/PDF files in .zip description		
	Document Description	Start	End
	Response After Final Action	1	4
	Claims	5	7
	Applicant Arguments/Remarks Made in an Amendment	8	17
	After Final Consideration Program Request	18	18

**Warnings:**

**Information:**

<b>Total Files Size (in bytes):</b>	413929
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**New Applications Under 35 U.S.C. 111**

**If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.**

**National Stage of an International Application under 35 U.S.C. 371**

**If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.**

**New International Application Filed with the USPTO as a Receiving Office**

**If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.**



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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
11/805,779	05/24/2007	Nicholas Edward Thompson	361430 00335	3981

22827 7590 07/25/2013  
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GREENVILLE, SC 29602-1449

EXAMINER
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SOROUGH, ALI

ART UNIT	PAPER NUMBER
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1617

MAIL DATE	DELIVERY MODE
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07/25/2013

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b><i>Applicant-Initiated Interview Summary</i></b>	<b>Application No.</b> 11/805,779	<b>Applicant(s)</b> THOMPSON ET AL.	
	<b>Examiner</b> ALI SOROUGH	<b>Art Unit</b> 1617	

All participants (applicant, applicant's representative, PTO personnel):

(1) ALI SOROUGH. (3) \_\_\_\_.

(2) Anand Patel. (4) \_\_\_\_.

Date of Interview: 23 July 2013.

Type:    ☒ Telephonic    ☐ Video Conference  
           ☐ Personal [copy given to:    ☐ applicant    ☐ applicant's representative]

Exhibit shown or demonstration conducted:    ☐ Yes    ☐ No.  
     If Yes, brief description: \_\_\_\_.

Issues Discussed    ☐101    ☐112    ☐102    ☒103    ☐Others  
 (For each of the checked box(es) above, please describe below the issue and detailed description of the discussion)

Claim(s) discussed: 1-3, 10, 15-17, 19, 21, and 24.

Identification of prior art discussed: Wiese (US Patent 527156, Published 07/13/1993), Burdick et al. (US Patent 6433056, Published 08/13/2002).

**Substance of Interview**  
 (For each issue discussed, provide a detailed description and indicate if agreement was reached. Some topics may include: identification or clarification of a reference or a portion thereof, claim interpretation, proposed amendments, arguments of any applied references etc...)

Applicant argued that the teaching of Wiese is limited to alkyl type isothiazolin-3-one preservatives and therefore one of ordinary skill in the art would not have been motivated to substitute the alkyl type isothiazolin-3-one preservative with the aryl type isothiazolin-3-one preservative taught by Burdick et al. Furthermore, Applicant argues that it would not have been obvious to one of ordinary skill to add the preservative of Burdick et al. to the composition of Wiese et al. since Wiese et al. is attempting to limit the amount to isothiazolin-3-one, and preservatives generally, to avoid the reactions with the zinc compound in the anti-dandruff composition. Applicant has also agreed to amend claims 1, 17 and 19 to removed 4,5-dichloro-2-n-octyl-4-isothiazolin-3-one. The Examiner agreed that the arguments and amendments would be sufficient to overcome the rejection of record.

**Applicant recordation instructions:** The formal written reply to the last Office action must include the substance of the interview. (See MPEP section 713.04). If a reply to the last Office action has already been filed, applicant is given a non-extendable period of the longer of one month or thirty days from this interview date, or the mailing date of this interview summary form, whichever is later, to file a statement of the substance of the interview

**Examiner recordation instructions:** Examiners must summarize the substance of any interview of record. A complete and proper recordation of the substance of an interview should include the items listed in MPEP 713.04 for complete and proper recordation including the identification of the general thrust of each argument or issue discussed, a general indication of any other pertinent matters discussed regarding patentability and the general results or outcome of the interview, to include an indication as to whether or not agreement was reached on the issues raised.

☐ Attachment

/ALI SOROUGH/ Primary Examiner, Art Unit 1617	
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## Summary of Record of Interview Requirements

### Manual of Patent Examining Procedure (MPEP), Section 713.04, Substance of Interview Must be Made of Record

A complete written statement as to the substance of any face-to-face, video conference, or telephone interview with regard to an application must be made of record in the application whether or not an agreement with the examiner was reached at the interview.

#### Title 37 Code of Federal Regulations (CFR) § 1.133 Interviews

Paragraph (b)

In every instance where reconsideration is requested in view of an interview with an examiner, a complete written statement of the reasons presented at the interview as warranting favorable action must be filed by the applicant. An interview does not remove the necessity for reply to Office action as specified in §§ 1.111, 1.135. (35 U.S.C. 132)

37 CFR §1.2 Business to be transacted in writing.

All business with the Patent or Trademark Office should be transacted in writing. The personal attendance of applicants or their attorneys or agents at the Patent and Trademark Office is unnecessary. The action of the Patent and Trademark Office will be based exclusively on the written record in the Office. No attention will be paid to any alleged oral promise, stipulation, or understanding in relation to which there is disagreement or doubt.

The action of the Patent and Trademark Office cannot be based exclusively on the written record in the Office if that record is itself incomplete through the failure to record the substance of interviews.

It is the responsibility of the applicant or the attorney or agent to make the substance of an interview of record in the application file, unless the examiner indicates he or she will do so. It is the examiner's responsibility to see that such a record is made and to correct material inaccuracies which bear directly on the question of patentability.

Examiners must complete an Interview Summary Form for each interview held where a matter of substance has been discussed during the interview by checking the appropriate boxes and filling in the blanks. Discussions regarding only procedural matters, directed solely to restriction requirements for which interview recordation is otherwise provided for in Section 812.01 of the Manual of Patent Examining Procedure, or pointing out typographical errors or unreadable script in Office actions or the like, are excluded from the interview recordation procedures below. Where the substance of an interview is completely recorded in an Examiners Amendment, no separate Interview Summary Record is required.

The Interview Summary Form shall be given an appropriate Paper No., placed in the right hand portion of the file, and listed on the "Contents" section of the file wrapper. In a personal interview, a duplicate of the Form is given to the applicant (or attorney or agent) at the conclusion of the interview. In the case of a telephone or video-conference interview, the copy is mailed to the applicant's correspondence address either with or prior to the next official communication. If additional correspondence from the examiner is not likely before an allowance or if other circumstances dictate, the Form should be mailed promptly after the interview rather than with the next official communication.

The Form provides for recordation of the following information:

- Application Number (Series Code and Serial Number)
- Name of applicant
- Name of examiner
- Date of interview
- Type of interview (telephonic, video-conference, or personal)
- Name of participant(s) (applicant, attorney or agent, examiner, other PTO personnel, etc.)
- An indication whether or not an exhibit was shown or a demonstration conducted
- An identification of the specific prior art discussed
- An indication whether an agreement was reached and if so, a description of the general nature of the agreement (may be by attachment of a copy of amendments or claims agreed as being allowable). Note: Agreement as to allowability is tentative and does not restrict further action by the examiner to the contrary.
- The signature of the examiner who conducted the interview (if Form is not an attachment to a signed Office action)

It is desirable that the examiner orally remind the applicant of his or her obligation to record the substance of the interview of each case. It should be noted, however, that the Interview Summary Form will not normally be considered a complete and proper recordation of the interview unless it includes, or is supplemented by the applicant or the examiner to include, all of the applicable items required below concerning the substance of the interview.

A complete and proper recordation of the substance of any interview should include at least the following applicable items:

- 1) A brief description of the nature of any exhibit shown or any demonstration conducted,
- 2) an identification of the claims discussed,
- 3) an identification of the specific prior art discussed,
- 4) an identification of the principal proposed amendments of a substantive nature discussed, unless these are already described on the Interview Summary Form completed by the Examiner,
- 5) a brief identification of the general thrust of the principal arguments presented to the examiner,  
(The identification of arguments need not be lengthy or elaborate. A verbatim or highly detailed description of the arguments is not required. The identification of the arguments is sufficient if the general nature or thrust of the principal arguments made to the examiner can be understood in the context of the application file. Of course, the applicant may desire to emphasize and fully describe those arguments which he or she feels were or might be persuasive to the examiner.)
- 6) a general indication of any other pertinent matters discussed, and
- 7) if appropriate, the general results or outcome of the interview unless already described in the Interview Summary Form completed by the examiner.

Examiners are expected to carefully review the applicant's record of the substance of an interview. If the record is not complete and accurate, the examiner will give the applicant an extendable one month time period to correct the record.

#### Examiner to Check for Accuracy

If the claims are allowable for other reasons of record, the examiner should send a letter setting forth the examiner's version of the statement attributed to him or her. If the record is complete and accurate, the examiner should place the indication, "Interview Record OK" on the paper recording the substance of the interview along with the date and the examiner's initials.

<b>PATENT APPLICATION FEE DETERMINATION RECORD</b> Substitute for Form PTO-875	Application or Docket Number <b>11/805,779</b>	Filing Date <b>05/24/2007</b>	<input type="checkbox"/> To be Mailed
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 ENTITY: ☒ LARGE ☐ SMALL ☐ MICRO

### APPLICATION AS FILED – PART I

(Column 1)

(Column 2)

FOR	NUMBER FILED	NUMBER EXTRA	RATE (\$)	FEE (\$)
<input type="checkbox"/> BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A	
<input type="checkbox"/> SEARCH FEE (37 CFR 1.16(k), (l), or (m))	N/A	N/A	N/A	
<input type="checkbox"/> EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A	
TOTAL CLAIMS (37 CFR 1.16(i))	minus 20 =	*	X \$ =	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*	X \$ =	
<input type="checkbox"/> APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$310 (\$155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).			
<input type="checkbox"/> MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))				
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL	

### APPLICATION AS AMENDED – PART II

(Column 1)

(Column 2)

(Column 3)

	07/25/2013	CLAIMS REMAINING AFTER AMENDMENT	MINUS	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE (\$)	ADDITIONAL FEE (\$)
AMENDMENT	Total (37 CFR 1.16(i))	* 10	Minus	** 25	= 0	X \$80 =	0
	Independent (37 CFR 1.16(h))	* 4	Minus	*** 7	= 0	X \$420 =	0
	<input type="checkbox"/> Application Size Fee (37 CFR 1.16(s))						
	<input type="checkbox"/> FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))						
	TOTAL ADD'L FEE						0

(Column 1)

(Column 2)

(Column 3)

	CLAIMS REMAINING AFTER AMENDMENT	MINUS	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE (\$)	ADDITIONAL FEE (\$)
AMENDMENT	Total (37 CFR 1.16(i))	*	Minus	**	=	X \$ =
	Independent (37 CFR 1.16(h))	*	Minus	***	=	X \$ =
	<input type="checkbox"/> Application Size Fee (37 CFR 1.16(s))					
	<input type="checkbox"/> FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))					
	TOTAL ADD'L FEE					

\* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.

\*\* If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".

\*\*\* If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".

The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.

 LIE  
 /HENRIETT K. DENDY/

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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11/805,779

05/24/2007

Nicholas Edward Thompson

361430 00335

3981

22827 7590 08/02/2013

DORITY & MANNING, P.A.  
POST OFFICE BOX 1449  
GREENVILLE, SC 29602-1449

EXAMINER

SOROUGH, ALI

ART UNIT

PAPER NUMBER

1617

MAIL DATE

DELIVERY MODE

08/02/2013

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Advisory Action</b> <b>Before the Filing of an Appeal Brief</b>	<b>Application No.</b> 11/805,779	<b>Applicant(s)</b> THOMPSON ET AL.
	<b>Examiner</b> ALI SOROUGH	<b>Art Unit</b> 1617

**--The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

THE REPLY FILED 25 July 2013 FAILS TO PLACE THIS APPLICATION IN CONDITION FOR ALLOWANCE.  
NO NOTICE OF APPEAL FILED

1. ☒ The reply was filed after a final rejection. No Notice of Appeal has been filed. To avoid abandonment of this application, applicant must timely file one of the following replies: (1) an amendment, affidavit, or other evidence, which places the application in condition for allowance; (2) a Notice of Appeal (with appeal fee) in compliance with 37 CFR 41.31; or (3) a Request for Continued Examination (RCE) in compliance with 37 CFR 1.114 if this is a utility or plant application. Note that RCEs are not permitted in design applications. The reply must be filed within one of the following time periods:

a) ☒ The period for reply expires 3 months from the mailing date of the final rejection.

b) ☐ The period for reply expires on: (1) the mailing date of this Advisory Action; or (2) the date set forth in the final rejection, whichever is later. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of the final rejection.

c) ☐ A prior Advisory Action was mailed more than 3 months after the mailing date of the final rejection in response to a first after-final reply filed within 2 months of the mailing date of the final rejection. The current period for reply expires \_\_\_\_\_ months from the mailing date of the prior Advisory Action or SIX MONTHS from the mailing date of the final rejection, whichever is earlier.

*Examiner Note:* If box 1 is checked, check either box (a), (b) or (c). ONLY CHECK BOX (b) WHEN THIS ADVISORY ACTION IS THE FIRST RESPONSE TO APPLICANT'S FIRST AFTER-FINAL REPLY WHICH WAS FILED WITHIN TWO MONTHS OF THE FINAL REJECTION. ONLY CHECK BOX (c) IN THE LIMITED SITUATION SET FORTH UNDER BOX (c). See MPEP 706.07(f).

Extensions of time may be obtained under 37 CFR 1.136(a). The date on which the petition under 37 CFR 1.136(a) and the appropriate extension fee have been filed is the date for purposes of determining the period of extension and the corresponding amount of the fee. The appropriate extension fee under 37 CFR 1.17(a) is calculated from: (1) the expiration date of the shortened statutory period for reply originally set in the final Office action; or (2) as set forth in (b) or (c) above, if checked. Any reply received by the Office later than three months after the mailing date of the final rejection, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

NOTICE OF APPEAL

2. ☐ The Notice of Appeal was filed on \_\_\_\_\_. A brief in compliance with 37 CFR 41.37 must be filed within two months of the date of filing the Notice of Appeal (37 CFR 41.37(a)), or any extension thereof (37 CFR 41.37(e)), to avoid dismissal of the appeal. Since a Notice of Appeal has been filed, any reply must be filed within the time period set forth in 37 CFR 41.37(a).

AMENDMENTS

3. ☒ The proposed amendments filed after a final rejection, but prior to the date of filing a brief, will not be entered because

a) ☒ They raise new issues that would require further consideration and/or search (see NOTE below);

b) ☐ They raise the issue of new matter (see NOTE below);

c) ☐ They are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal; and/or

d) ☐ They present additional claims without canceling a corresponding number of finally rejected claims.

NOTE: See Continuation Sheet. (See 37 CFR 1.116 and 41.33(a)).

4. ☐ The amendments are not in compliance with 37 CFR 1.121. See attached Notice of Non-Compliant Amendment (PTOL-324).

5. ☐ Applicant's reply has overcome the following rejection(s): \_\_\_\_\_.

6. ☐ Newly proposed or amended claim(s) \_\_\_\_\_ would be allowable if submitted in a separate, timely filed amendment canceling the non-allowable claim(s).

7. ☐ For purposes of appeal, the proposed amendment(s): (a) ☐ will not be entered, or (b) ☐ will be entered, and an explanation of how the new or amended claims would be rejected is provided below or appended.

AFFIDAVIT OR OTHER EVIDENCE

8. ☐ The affidavit or other evidence filed after final action, but before or on the date of filing a Notice of Appeal will not be entered because applicant failed to provide a showing of good and sufficient reasons why the affidavit or other evidence is necessary and was not earlier presented. See 37 CFR 1.116(e).

9. ☐ The affidavit or other evidence filed after the date of filing the Notice of Appeal, but prior to the date of filing a brief, will not be entered because the affidavit or other evidence failed to overcome all rejections under appeal and/or appellant fails to provide a showing of good and sufficient reasons why it is necessary and was not earlier presented. See 37 CFR 41.33(d)(1).

10. ☐ The affidavit or other evidence is entered. An explanation of the status of the claims after entry is below or attached.

REQUEST FOR RECONSIDERATION/OTHER

11. ☒ The request for reconsideration has been considered but does NOT place the application in condition for allowance because:  
See Continuation Sheet.

12. ☐ Note the attached Information *Disclosure Statement(s)*. (PTO/SB/08) Paper No(s). \_\_\_\_\_

13. ☐ Other: \_\_\_\_\_.

STATUS OF CLAIMS

14. The status of the claim(s) is (or will be) as follows:

Claim(s) allowed: \_\_\_\_\_.

Claim(s) objected to: \_\_\_\_\_.

Claim(s) rejected: 1-3, 10, 15-17, 19, 21, and 24.

Claim(s) withdrawn from consideration: \_\_\_\_\_.

/ALI SOROUGH/ Primary Examiner, Art Unit 1617	
--	--

Continuation of 3. NOTE: The narrowing of the claims 1, 10, 17, and 19 with regard to the isothiazolin-one compounds that can be used in the instant composition would require a new search and further consideration of the prior art.

Continuation of 11. does NOT place the application in condition for allowance because: Since all of Applicant's arguments are directed to the amended claims and the amendment is not entered, the arguments are moot. Therefore, the rejection of record in the Office Action mailed on 04/25/2013 is maintained.

DO NOT ENTER: /A.S./

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Application of:	Thompson et al.	)	Examiner:	Soroush, Ali
Serial Number:	11/805,779	)	Group Art Unit:	1617
Filed:	May 24, 2007	)	Customer Number:	22827
Confirmation No.:	3981	)	Deposit Account:	04-1403
Title:	Isothiazolinone Biocides Enhanced By Zinc Ions	)		

**AMENDMENT**

Commissioner for Patents  
P. O. Box 1450  
Alexandria, VA 22313-1450

Dear Sir:

In response to the Office Action dated April 25, 2013 and in conjunction with the Request for Consideration under the After Final Consideration Pilot Program 2.0, Applicants respectfully submit the following amendments and arguments.

**Amendments to the Drawings** begin on page 2 of this response.

**Amendments to the Claims** are reflected in the Listing of Claims that begins on page 3 of this response.

**Remarks** begin on page 6 of this response.

# IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application of:	Thompson et al.	)	Examiner:	Ali Soroush
		)		
Serial Number:	11/805,779	)	Group Art Unit:	1617
		)		
Filed:	May 24, 2007	)	Customer Number:	22827
		)		
Confirmation No.:	3981	)	Deposit Account:	04-1403
		)		
Title:	Isothiazolinone Biocides Enhanced By Zinc Ions	)	Docket Number:	LZA-15
		)		

## REQUEST FOR CONTINUED EXAMINATION

Commissioner for Patents  
Post Office Box 1450  
Alexandria, VA 22313-1450

Dear Sir:

This is an amendment/letter/response in the above-identified application and includes the herewith attachment of same date and subject which is incorporated hereinto by reference and the signature below is to be treated as the signature to the attachment in absence of a signature thereto.

Fee requirements (if any) have been calculated as shown below:

	Claims remaining after amendment		Highest number previously paid for		Present Extra		Amount		Additional Fee
Total Effective Claims		minus		=	0	x	\$ 80	=	\$ <u>0.00</u>
Independent Claims		minus		=	0	x	\$ 420	=	\$ <u>0.00</u>

- ☐ 1<sup>st</sup> Request for Continued Examination (\$1200) is requested \$ 0.00
- ☒ 2<sup>nd</sup> Request for Continued Examination (\$1700) is requested \$ 1700.00

- ☒ In view of the previously submitted Amendment / Response dated July 25, 2013
- ☐ In view of the enclosed Amendment / Reply
- ☐ In view of the enclosed Affidavit(s) / Declaration(s)
- ☐ In view of the enclosed Information Disclosure Statement

Since Official Action set an original due date of July 25, 2013,

**PETITION** is hereby made for an extension to cover the date this response is filed for which the requisite fee is enclosed (**1 month \$200;**  
2 months \$600; 3 months \$1,400; 4 months \$2,200, 5 months \$3,000

\$ 200.00

If amendment enters proper multiple dependent claim(s) into this application  
for first time, add \$780.00 (per application) \$ 0.00

Other: \_\_\_\_\_ \$ 0.00

**SUBTOTAL:** \$ 1900.00

If "small entity" verified statement filed ☐ previously,  
☐ herewith, enter one-half (1/2) of subtotal and subtract - \$ 0.00

If "micro entity" verified statement filed ☐ previously,  
☐ herewith, enter three-quarters (3/4) of subtotal and subtract - \$ 0.00

If Terminal Disclaimer enclosed, add Rule 20(d) Official Fee (\$160.00) \$ 0.00

**TOTAL FEE ENCLOSED:** \$ 1900.00

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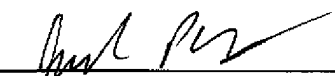
The Commissioner is hereby authorized to charge any fee specifically authorized hereafter, or any fees in addition to the fee(s) filed, or asserted to be filed, or which should have been filed herewith or concerning any paper filed hereafter, and which may be required under Rules 16-18 (deficiency only) now or hereafter relative to this application and the resulting official document under Rule 20, or credit any overpayment, to our Account No. shown in the heading hereof. This statement does not authorize charge of the issue fee in this case.

**DORITY & MANNING ATTORNEYS AT LAW, P.A.**

**ADDRESS:**

Post Office Box 1449  
Greenville, SC 29602 USA  
Customer ID No.: 22827  
Telephone: (864) 271-1592  
Facsimile: (864) 233-7342

By: Anand K. Patel Reg. No: 70,705

Signature: 

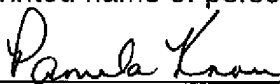
Date: August 26, 2013

---

I hereby certify that this correspondence and all attachments and any fee(s) are being electronically transmitted via the internet to the U.S. Patent and Trademark Office using the Electronic Patent Filing System on August 26, 2013.

Pamela Knorr

(Typed or printed name of person transmitting documents)



(Signature of person transmitting documents)

## Electronic Patent Application Fee Transmittal

<b>Application Number:</b>	11805779			
<b>Filing Date:</b>	24-May-2007			
<b>Title of Invention:</b>	Isothiazolinone biocides enhanced by zinc ions			
<b>First Named Inventor/Applicant Name:</b>	Nicholas Edward Thompson			
<b>Filer:</b>	Anand Kalyanbhai Patel/Pamela Knorr			
<b>Attorney Docket Number:</b>	361430 00335			
Filed as Large Entity				
<b>Utility under 35 USC 111(a) Filing Fees</b>				
<b>Description</b>	<b>Fee Code</b>	<b>Quantity</b>	<b>Amount</b>	<b>Sub-Total in USD(\$)</b>
<b>Basic Filing:</b>				
<b>Pages:</b>				
<b>Claims:</b>				
<b>Miscellaneous-Filing:</b>				
<b>Petition:</b>				
<b>Patent-Appeals-and-Interference:</b>				
<b>Post-Allowance-and-Post-Issuance:</b>				
<b>Extension-of-Time:</b>				
Extension - 1 month with \$0 paid	1251	1	200	200

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
<b>Miscellaneous:</b>				
RCE - 2nd and Subsequent Request	1820	1	1700	1700
<b>Total in USD (\$)</b>				<b>1900</b>

## Electronic Acknowledgement Receipt

<b>EFS ID:</b>	16685351
<b>Application Number:</b>	11805779
<b>International Application Number:</b>	
<b>Confirmation Number:</b>	3981
<b>Title of Invention:</b>	Isothiazolinone biocides enhanced by zinc ions
<b>First Named Inventor/Applicant Name:</b>	Nicholas Edward Thompson
<b>Customer Number:</b>	22827
<b>Filer:</b>	Anand Kalyanbhai Patel/Pamela Knorr
<b>Filer Authorized By:</b>	Anand Kalyanbhai Patel
<b>Attorney Docket Number:</b>	361430 00335
<b>Receipt Date:</b>	26-AUG-2013
<b>Filing Date:</b>	24-MAY-2007
<b>Time Stamp:</b>	15:20:17
<b>Application Type:</b>	Utility under 35 USC 111(a)

### Payment information:

Submitted with Payment	yes
Payment Type	Credit Card
Payment was successfully received in RAM	\$ 1900
RAM confirmation Number	2030
Deposit Account	
Authorized User	

### File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi part (if appl.)	Pages (if appl.)
		Sherwin Williams	Exhibit 1102		

1	Request for Continued Examination (RCE)	LZA-15-RCE082613.pdf	58560 af863631a582e7ba5e8a8622d35222bdf6615d6	no	2
<b>Warnings:</b>					
This is not a USPTO supplied RCE SB30 form.					
<b>Information:</b>					
2	Fee Worksheet (SB06)	fee-info.pdf	32007 0d3c768554427b27e456136b9cd20f4e905ac19e	no	2
<b>Warnings:</b>					
<b>Information:</b>					
<b>Total Files Size (in bytes):</b>			90567		
<p><b>This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.</b></p> <p><b><u>New Applications Under 35 U.S.C. 111</u></b>  If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.</p> <p><b><u>National Stage of an International Application under 35 U.S.C. 371</u></b>  If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.</p> <p><b><u>New International Application Filed with the USPTO as a Receiving Office</u></b>  If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.</p>					

<b>PATENT APPLICATION FEE DETERMINATION RECORD</b> Substitute for Form PTO-875	Application or Docket Number <b>11/805,779</b>	Filing Date <b>05/24/2007</b>	<input type="checkbox"/> To be Mailed
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ENTITY: ☒ LARGE ☐ SMALL ☐ MICRO

**APPLICATION AS FILED – PART I**

(Column 1)

(Column 2)

FOR	NUMBER FILED	NUMBER EXTRA	RATE (\$)	FEE (\$)
<input type="checkbox"/> BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A	
<input type="checkbox"/> SEARCH FEE (37 CFR 1.16(k), (l), or (m))	N/A	N/A	N/A	
<input type="checkbox"/> EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A	
TOTAL CLAIMS (37 CFR 1.16(i))	minus 20 =	*	X \$ =	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*	X \$ =	
<input type="checkbox"/> APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$310 (\$155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).			
<input type="checkbox"/> MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))				
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL	

**APPLICATION AS AMENDED – PART II**

(Column 1)

(Column 2)

(Column 3)

AMENDMENT	08/26/2013	CLAIMS REMAINING AFTER AMENDMENT	MINUS	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE (\$)	ADDITIONAL FEE (\$)
	Total (37 CFR 1.16(i))	* 10	Minus	** 25	= 0	X \$80 =	0
	Independent (37 CFR 1.16(h))	* 4	Minus	*** 7	= 0	X \$420 =	0
	<input type="checkbox"/> Application Size Fee (37 CFR 1.16(s))						
	<input type="checkbox"/> FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))						
TOTAL ADD'L FEE						<b>0</b>	

(Column 1)

(Column 2)

(Column 3)

AMENDMENT	CLAIMS REMAINING AFTER AMENDMENT	MINUS	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE (\$)	ADDITIONAL FEE (\$)
	Total (37 CFR 1.16(i))	*	Minus	**	=	X \$ =
	Independent (37 CFR 1.16(h))	*	Minus	***	=	X \$ =
	<input type="checkbox"/> Application Size Fee (37 CFR 1.16(s))					
	<input type="checkbox"/> FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))					
TOTAL ADD'L FEE						

\* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.

\*\* If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".

\*\*\* If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".

The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.

LIE  
/DESHONNE T. MARTINO/

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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11/805,779

05/24/2007

Nicholas Edward Thompson

LZA-15

3981

22827 7590 02/25/2014

DORITY & MANNING, P.A.  
POST OFFICE BOX 1449  
GREENVILLE, SC 29602-1449

EXAMINER

SOROUGH, ALI

ART UNIT

PAPER NUMBER

1617

MAIL DATE

DELIVERY MODE

02/25/2014

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 11/805,779	<b>Applicant(s)</b> THOMPSON ET AL.	
	<b>Examiner</b> ALI SOROUGH	<b>Art Unit</b> 1617	<b>AIA (First Inventor to File) Status</b> No

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTHS FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 08/26/2013.  
☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on \_\_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on \_\_\_\_\_; the restriction requirement and election have been incorporated into this action.
- 4) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims\*

- 5) ☒ Claim(s) 1-3,10,15-17,19,21 and 24 is/are pending in the application.  
5a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 6) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 7) ☒ Claim(s) 1-3,10,15-17,19,21 and 24 is/are rejected.
- 8) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 9) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

\* If any claims have been determined allowable, you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see [http://www.uspto.gov/patents/init\\_events/pph/index.jsp](http://www.uspto.gov/patents/init_events/pph/index.jsp) or send an inquiry to [PPHfeedback@uspto.gov](mailto:PPHfeedback@uspto.gov).

### Application Papers

- 10) ☐ The specification is objected to by the Examiner.
- 11) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

#### Certified copies:

- a) ☐ All    b) ☐ Some\*\*    c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\*\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 3) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08a and/or PTO/SB/08b)<br>Paper No(s)/Mail Date _____ | 4) <input type="checkbox"/> Other: _____  |

### **DETAILED ACTION**

The present application is being examined under the pre-AIA first to invent provisions.

#### ***Continued Examination Under 37 CFR 1.114***

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 08/26/2013 has been entered.

#### ***Claim Status***

Claims 1-3, 10, 15-17, 19, 21, and 24 are pending.

Claims 4-9, 11-14, 18, 20, 22, 23, and 25-28 were previously cancelled.

Claims 1, 10, 17, and 19 are currently amended.

Claims 1-3, 10, 15-17, 19, 21, and 24 have been examined.

Claims 1-3, 10, 15-17, 19, 21, and 24 are rejected.

#### ***Priority***

Priority to 60/808,697 filed on 05/26/2006 is acknowledged.

#### ***Withdrawn and New Claim Rejections – 35 USC § 103***

The following is a quotation of pre-AIA 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

Art Unit: 1617

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under pre-AIA 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under pre-AIA 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of pre-AIA 35 U.S.C. 103(c) and potential pre-AIA 35 U.S.C. 102(e), (f) or (g) prior art under pre-AIA 35 U.S.C. 103(a).

***Response to Applicant's Arguments***

The claims 1-3, 10, 15, 16, 17, 19, 21, and 24 under 35 U.S.C. 103(a) as being unpatentable over Wiese (US Patent 5227156, Published 07/13/1993) in view of Janchitraponvej et al. (US Patent 5221530, Published 06/22/1993) and further in view of Burdick et al. (US Patent 6433056 B1, Published 08/13/2002) is withdrawn in view of Applicant's amendments and arguments.

This is a new ground of rejection necessitated by the amendment to the claims.

Claims 1, 2, 3, 10, 17, 19, and 21 are rejected under pre-AIA 35 U.S.C. 103(a) as being unpatentable over McCarthy et al. (US Patent 4299749, Published 11/10/1981) in view of Wachowiak, Jr. (US Patent 6156108, Published 12/05/2000).

The claims are directed to a composition comprising 5 to 500pm isothiazolin-3-one, about 10 to 500pm zinc oxide, and a polymer emulsion base medium. The claims are further directed to the isothiazolin-3-one is 1,2-benzoisothiazolin-3-one. The claims are further directed to the ratio of isothiazolin-3-one to zinc is from 4:1 to 1:2. The claims are further directed to the polymer comprise a plurality of monomers selected from acrylic acid and/or methacrylate.

McCarthy et al. teach a floor polish composition (title and abstract) comprising 155-175ppm 1,2-benzoisothiazolin-3-one and a polymer emulsion comprising ethyl acrylate, butyl acrylate, methyl methacrylate and acrylic acid monomers (column 8, lines 50-68 and column 9, lines 1-18).

McCarthy et al. lacks a teaching wherein the composition comprises a zinc compound such as zinc oxide.

Wachowiak, Jr. teaches a floor polish composition (abstract and column 1, lines 15-24) which may further comprise modifiers such as preservatives and ultraviolet light inhibitors (column 2, lines 30-32). The preservative and ultraviolet light inhibitor can be selected from zinc oxide and be present in the composition in an amount of 10000-30000 ppm (column 5, lines 15-22).

It would have been prima facie obvious to one of ordinary skill in the art at the time of the instant invention to add zinc oxide to the composition of McCarthy et al. and have a reasonable expectation of success. One would have been motivated to do so in order to provide the floor polish composition of McCarthy et al. with preservative and ultraviolet light inhibitor properties. Therefore, the instant claims are rendered obvious by the teachings of the prior art.

This is a new ground of rejection necessitated by the amendment to the claims.

Claims 15, 16, and 24 rejected under pre-AIA 35 U.S.C. 103(a) as being unpatentable over McCarthy et al. (US Patent 4299749, Published 11/10/1981) in view of Wachowiak, Jr. (US Patent 6156108, Published 12/05/2000) as applied to claim 1, 2, 3, 10, 17, 19, and 21 above, and further in view of Blue (US Patent 3976501, Published 08/24/1976).

The claims are further directed to the composition comprising a co-biocide such as zinc pyrithione in an amount of 0.001 to 1.0%.

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The teachings of McCarthy et al. and Wachowiak, Jr. are discussed above.

McCarthy et al. lacks a teaching wherein the composition comprises a co-biocide.

Blue teaches floor polishing composition comprising 0.05 to 0.5% bacteriostatic agent zinc pyrithione (prior art claim 1).

It would have been prima facie obvious to one of ordinary skill in the art at the time of the instant invention to add zinc pyrithione to the composition of McCarthy et al. and have a reasonable expectation of success. One would have been motivated to do so in order to provide the floor polish composition of McCarthy et al. with additional bacteriostatic properties. Therefore, the instant claims are rendered obvious by the teachings of the prior art.

### ***Conclusion***

No claims are allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ALI SOROUSH whose telephone number is (571)272-9925. The examiner can normally be reached on M, W-F (9am-7:30pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Johann Richter can be reached on (571)272-0646. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/ALI SOROUGH/  
Primary Examiner, Art Unit 1617

February 23, 2014

<b>Notice of References Cited</b>	Application/Control No. 11/805,779		Applicant(s)/Patent Under Reexamination THOMPSON ET AL.	
	Examiner ALI SOROUGH		Art Unit 1617	Page 1 of 1

#### U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
*	A	US-4,299,749	11-1981	McCarthy et al.	524/145
*	B	US-6,156,108	12-2000	Wachowiak, Jr., Melvin Joseph	106/10
*	C	US-3,976,501	08-1976	Blue, Maurice R.	134/10
	D	US-			
	E	US-			
	F	US-			
	G	US-			
	H	US-			
	I	US-			
	J	US-			
	K	US-			
	L	US-			
	M	US-			

#### FOREIGN PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
	N					
	O					
	P					
	Q					
	R					
	S					
	T					

#### NON-PATENT DOCUMENTS

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
	U	
	V	
	W	
	X	

\*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)  
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	1128	benzisothiazolin\$3one	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/02/23 15:55
L2	26	L1 same paint	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/02/23 15:55
L3	71	L1 with zinc	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/02/23 15:59
L4	54	L1 with emulsion	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/02/23 16:23
L5	5	L1 near5 emulsion	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/02/23 16:23
L6	26	(acrylic near5 sheet) same (zinc adj oxide)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/02/23 16:44
L7	8	(counter adj top) same (zinc adj oxide)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/02/23 16:47
L8	20	L1 with polymer	US-PGPUB;	OR	ON	2014/02/23

			USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB			16:51
L9	34	proxel with paint	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/02/23 17:00
L10	90	proxel same paint	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/02/23 17:01
L11	448	proxel same acrylic	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/02/23 17:11
L12	58	(floor near3 (coating polishing)) same (zinc adj oxide)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/02/23 17:22
L13	2	(floor near3 (coating polishing)) same (pyrithione)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/02/23 18:38
S1	14532	tannic adj acid	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/25 19:49
S2	14946	(tannic adj acid) (Acidum adj tannicum) (Gallotannic adj acid) (Digallic adj acid) Gallotannin Tannimum Quercitannin (Oak adj bark adj tannin) (Quercotannic adj acid) ("Querci-tannic" adj acid) ("Querco- tannic" adj acid)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/25 19:51
S3	42037	potassium adj iodide	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT;	OR	ON	2011/03/25 19:52

			IBM_TDB			
S4	10	S2 near3 S3	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/25 19:52
S5	90	S2 with S3	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/25 20:02
S6	0	S5 same ((ascrobic adj acid) (vitamin adj "c"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/25 20:03
S7	5	S5 and ((ascrobic adj acid) (vitamin adj "c"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/25 20:03
S8	79	S5 and ((ascorbic adj acid) (vitamin adj "c"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/25 20:04
S9	73	S5 same ((ascorbic adj acid) (vitamin adj "c"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/25 20:04
S10	73	S5 with ((ascorbic adj acid) (vitamin adj "c"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/25 20:04
S11	0	S5 with topical	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/25 20:08
S12	6	S5 same topical	US-PGPUB; USPAT; USOCR; FPRS; EPO;	OR	ON	2011/03/25 20:08

			JPO; DERWENT; IBM_TDB			
S13	1	09/101623.app.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/27 12:37
S14	465	glycerol near3 emollient	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/27 12:43
S15	87	glycerol near emollient	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/27 12:43
S16	9	hydrogel with (xanthum adj gum)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/27 12:49
S17	34184	(benzalkonium adj chloride)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/27 12:54
S18	14	S17 with octoxyglycerin	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/27 12:55
S19	11	octoxyglycerin with (synergy synergistic)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/27 12:55
S20	573	zinc with chondroitin	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/27 13:05
S21	10	S20 same anemia	US-PGPUB; USPAT;	OR	ON	2011/03/27 13:05

			USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB			
S22	2	"5516510".pn.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/27 13:12
S23	0	(zinc adj oxide) with (isothiazilnone)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/27 13:19
S24	0	(isothiazilnone)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/27 13:19
S25	432	isothiazolin-3-one	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/27 13:20
S26	4	S25 with (zinc adj oxide)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/27 13:20
S27	12	S25 same (zinc adj oxide)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/27 13:22
S28	1472	benzisothiazoline	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/27 13:40
S29	161	S28 with preservative	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/27 13:41

S30	28	benzothiazoline-3-one	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/27 13:42
S31	0	S30 with preservative	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/27 13:42
S32	0	S30 with (zinc adj oxide)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/27 13:43
S33	0	S30 same (zinc adj oxide)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/27 13:43
S34	3	S30 same zinc	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/27 13:43
S35	1994	paint with (zinc adj oxide)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/27 13:52
S36	45	(latex adj paint) with (zinc adj oxide)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/27 13:52
S37	510	(latex adj paint) with thickener	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/27 13:56
S38	367	S37 and (zinc oxide)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO;	OR	ON	2011/03/27 13:56

			DERWENT; IBM_TDB			
S39	104	S37 and (zinc adj oxide)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/27 13:57
S40	2	"20060269616"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/28 10:52
S41	12	2004/0022869	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/28 11:22
S42	2	"20040022869"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/28 11:22
S43	2	"5227156".pn.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/28 12:04
S44	26	(zinc adj pyrrhione) with irritant	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/28 12:14
S45	3	(zinc adj sulfate) with dandruff	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/28 12:37
S46	156	(zinc adj sulfate) with pyrrhione	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/28 12:37
S47	1	S46 same dandruff	US-PGPUB; USPAT; USOCR;	OR	ON	2011/03/28 12:38


			FPRS; EPO; JPO; DERWENT; IBM_TDB			
S48	29	(zinc adj sulfate) same dandruff	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/28 12:39
S49	950	ketoconazole with pyrithione	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/28 12:44
S50	175	S49 with dandruff	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/28 12:44
S51	2	"5227156".pn.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/01/09 18:27
S52	2	"5227156".pn.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/06/17 13:53
S53	92	(polymer near3 emulsion) with shampoo	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/06/17 14:47
S54	3103	benzisothiazolin	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/06/17 14:53
S55	42	S54 with (acrylate (acrylic adj acid) methacrylate (polyvinyl adj acetate))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/06/17 14:54
S56	431	polish with zinc	US-PGPUB;	OR	ON	2012/06/17

			USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB			15:02
S57	86	polish with (zinc adj oxide)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/06/17 15:33
S58	1120	(furniture adj polish)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/06/17 15:43
S59	3	S58 same (zinc adj oxide)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/06/17 15:43
S60	11	S55 same zinc	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/06/17 15:44
S61	1	10/498902.app.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/06/17 15:47
S62	17342	polymer adj emulsion	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/06/17 15:52
S63	47	S62 same shampoo	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/06/17 15:53
S64	364	(polymer near3 emulsion) with zinc	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT;	OR	ON	2012/06/17 15:54

			IBM_TDB			
S65	123	(polymer near3 emulsion) with (zinc adj oxide)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/06/17 15:59
S66	385	(acrylate (acrylic adj acid) methacrylate (polyvinyl adj acetate)) with shampoo	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/06/17 16:06
S67	48	(acrylate (acrylic adj acid) methacrylate (polyvinyl adj acetate)) near5 shampoo	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/06/17 16:06
S68	4251	Benzisothiazolinone "Benzisothiazolin-3-one" Benzisothiazolone "1,2-benzisothiazol-3(2H)-one" "1,2-Benzisothiazolin-3-one"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2013/07/31 13:52
S69	87	S68 near5 zinc	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2013/07/31 13:52
S70	2	"5444078".pn.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2013/07/31 14:14
S71	11	S68 near5 (zinc adj (chloride oxide))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2013/07/31 14:17
S72	59	S68 with (zinc adj (chloride oxide))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2013/07/31 15:17
S73	3	S72 same polymer	US-PGPUB; USPAT; USOCR; FPRS; EPO;	OR	ON	2013/07/31 15:23

			JPO; DERWENT; IBM_TDB			
S74	77	S68 with (zinc near3 (salt hydroxide))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2013/07/31 15:25
S75	1357	(zinc adj pyrrithione) with salt	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2013/07/31 15:29
S76	508	(zinc adj pyrrithione) near3 salt	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2013/07/31 15:29
S77	2	"20050101487"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2013/07/31 15:37

2/ 23/ 2014 7:21:54 PM  
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<b>Search Notes</b>  	<b>Application/Control No.</b>  11805779	<b>Applicant(s)/Patent Under Reexamination</b>  THOMPSON ET AL.
	<b>Examiner</b>  ALI SOROUGH	<b>Art Unit</b>  1616

CPC- SEARCHED		
Symbol	Date	Examiner

CPC COMBINATION SETS - SEARCHED		
Symbol	Date	Examiner

US CLASSIFICATION SEARCHED			
Class	Subclass	Date	Examiner

SEARCH NOTES		
Search Notes	Date	Examiner
see search history printouts	02/23/2014	AS
Inventors/Assignee search PALM/EAST (Nicholas Edward Thompson, Malcom Greenhalgh, Fitzgerald Clarke, Arch Chemicals)	04/21/2013	AS

INTERFERENCE SEARCH			
US Class/ CPC Symbol	US Subclass / CPC Group	Date	Examiner

/ALI SOROUGH/  
Primary Examiner.Art Unit 1617

# IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application of:	Thompson et al.	)	Examiner:	Ali Soroush
		)		
Serial Number:	11/805,779	)	Group Art Unit:	1617
		)		
Filed:	May 24, 2007	)	Customer Number:	22827
		)		
Confirmation No.:	3981	)	Deposit Account:	04-1403
		)		
Title: Isothiazolinone Biocides		)	Docket Number:	LZA-15
Enhanced by Zinc Ions		)		

## AMENDMENT

Commissioner for Patents  
Post Office Box 1450  
Alexandria, VA 22313-1450

Dear Sir:

This is an amendment in the above-identified application and includes the herewith attachment of same date and subject which is incorporated hereinto by reference and the signature below is to be treated as the signature to the attachment in absence of a signature thereto.

Fee requirements (if any) have been calculated as shown below:

	Claims remaining after amendment		Highest number previously paid for		Present Extra		Amount		Additional Fee
Total Effective Claims		minus		=	0	x	\$ 80	=	\$ 0.00
Independent Claims		minus		=	0	x	\$ 420	=	\$ 0.00

- ☐ 1<sup>st</sup> Request for Continued Examination (\$1200) is requested \$ 0.00
- ☐ 2<sup>nd</sup> Request for Continued Examination (\$1700) is requested \$ 0.00

- ☐ In view of the previously submitted Amendment / Response dated \_\_\_\_\_
- ☐ In view of the enclosed Amendment / Reply
- ☐ In view of the enclosed Affidavit(s) / Declaration(s)
- ☐ In view of the enclosed Information Disclosure Statement

Since Official Action set an original due date of \_\_\_\_\_,

**PETITION** is hereby made for an extension to cover the date this response is filed for which the requisite fee is enclosed (1 month \$200; 2 months \$600; 3 months \$1,400; 4 months \$2,200; 5 months \$3,000

\$ 0.00

If amendment enters proper multiple dependent claim(s) into this application  
for first time, add \$780.00 (per application) \$ 0.00

Other: \_\_\_\_\_ \$ 0.00

**SUBTOTAL:** \$ 0.00

If "small entity" verified statement filed ☐ previously,  
☐ herewith, enter one-half (1/2) of subtotal and subtract - \$ 0.00

If "micro entity" verified statement filed ☐ previously,  
☐ herewith, enter three-quarters (3/4) of subtotal and subtract - \$ 0.00

If Terminal Disclaimer enclosed, add Rule 20(d) Official Fee (\$160.00) \$ 0.00

**TOTAL FEE ENCLOSED:** \$ 0.00

The Commissioner is hereby authorized to charge any fee specifically authorized hereafter, or any fees in addition to the fee(s) filed, or asserted to be filed, or which should have been filed herewith or concerning any paper filed hereafter, and which may be required under Rules 16-18 (deficiency only) now or hereafter relative to this application and the resulting official document under Rule 20, or credit any overpayment, to our Account No. shown in the heading hereof. This statement does not authorize charge of the issue fee in this case.

**DORITY & MANNING ATTORNEYS AT LAW, P.A.**

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Date: May 23, 2014

I hereby certify that this correspondence and all attachments and any fee(s) are being electronically transmitted via the internet to the U.S. Patent and Trademark Office using the Electronic Patent Filing System on May 23, 2014.

Pamela Knorr

(Typed or printed name of person transmitting documents)



(Signature of person transmitting documents)

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Application of:	Thompson et al.	)		
		)	Examiner:	Soroush, Ali
Serial Number:	11/805,779	)		
		)	Group Art Unit:	1617
Filed:	May 24, 2007	)		
		)	Customer Number:	22827
Confirmation No.:	3981	)		
		)	Deposit Account:	04-1403
Title:	Isothiazolinone Biocides Enhanced	)		
	By Zinc Ions	)		

**AMENDMENT**

Commissioner for Patents  
P. O. Box 1450  
Alexandria, VA 22313-1450

Dear Sir:

In response to the Office Action dated February 25, 2014, Applicant respectfully submits the following amendments and arguments.

**Amendments to the Claims** are reflected in the Listing of Claims that begins on page 2 of this Amendment.

**Remarks** begin on page 6 of this Amendment.

## LISTING OF CLAIMS

1. (Previously Presented) An antimicrobial composition comprising:
  - (a) at least one isothiazolin-3-one selected from the group consisting of 1,2-benzisothiazolin-3-one, N-(n-butyl)-1,2-benzisothiazolin-3-one, and combinations thereof;
  - (b) at least one zinc compound selected from the group consisting of zinc salts, zinc oxides, zinc hydroxides, and combinations thereof; and
  - (c) at least one polymer base medium,wherein said isothiazolin-3-one is present in an amount of from 1 to 500 ppm, wherein the zinc compound is present in an amount of from 5 to 200,000 ppm, and wherein the weight ratio of the isothiazolin-3-one to the zinc compound is from 1:2000 to 100:1.
2. (Currently Amended) The composition of claim 1 wherein ~~component (a) is present in an amount of from 1 to 500 ppm, component (b) is present in an amount of from 5 to 200,000 ppm, and the weight ratio of the isothiazolin-3-one to the zinc compound~~ is from 1:100 to 100:1.
3. (Original) The composition of claim 1 wherein component (a) is present in an amount of from 5 to 500 ppm, and component (b) is present in an amount of from 5 to 500 ppm.
- 4-9. (Cancelled)
10. (Previously Presented) A functional fluid composition comprising:
  - a polymer emulsion; and
  - a wet state preservative comprising at least one isothiazolin-3-one selected from the group consisting of 1,2-benzisothiazolin-3-one, N-(n-butyl)-1,2-benzisothiazolin-3-one, and combinations thereof, and at least one zinc compound selected from the group consisting of zinc salts, zinc oxides, zinc hydroxides, and combinations thereof,wherein said wet state preservative is present in said fluid composition in a total amount from about 10 ppm to about 400 ppm, and wherein the molar ratio of the at least one isothiazolin-3-one to the at least one zinc compound is from about 4:1 and about 1:2.

11-14. (Cancelled)

15. (Original) The composition of claim 10 which further comprises a co-biocide selected from the group consisting of pyrrithione salts, pyrrithione acids, and combinations thereof, and wherein said co-biocide is present in said composition in an amount of from about 0.001 to about 1.0% w/w based on the total weight of said composition.

16. (Original) The composition of claim 15 wherein said pyrrithione salts are selected from the group consisting of copper pyrrithione, zinc pyrrithione, sodium pyrrithione, and combinations thereof.

17. (Previously Presented) A coating composition comprising:  
a base medium selected from the group consisting of paints, adhesives, sealants, caulks, mineral and pigment slurries, printing inks, agricultural pesticide formulations, household coating products, personal care products, metal working fluids, and combinations thereof; and

a wet state preservative comprising at least one isothiazolin-3-one selected from the group consisting of 1,2-benzisothiazolin-3-one, N-(n-butyl)-1,2-benzisothiazolin-3-one, and combinations thereof, and at least one zinc compound selected from the group consisting of zinc salts, zinc oxides, zinc hydroxides, and combinations thereof,

wherein said wet state preservative is present in said coating composition in a total amount from about 10 ppm to about 400 ppm, and wherein the molar ratio of the at least one isothiazolin-3-one and the at least one zinc compound is from about 4:1 to about 1:2.

18. (Cancelled)

19. (Previously Presented) An antimicrobial composition comprising:  
(a) at least one isothiazolin-3-one selected from the group consisting of 1,2-benzisothiazolin-3-one, N-(n-butyl)-1,2-benzisothiazolin-3-one, and combinations thereof;

(b) at least one zinc oxide; and

(c) a polymer comprising a plurality of monomers selected from a group consisting of acrylic acid, methacrylate, styrene/butadiene, ethylene vinyl acetate, polyvinyl acetate, styrene/butadiene/N-methylol acrylamide, and nitrile,

wherein said isothiazolin-3-one is present in an amount from 1 to 500 ppm, wherein the zinc oxide is present in an amount from 5 to 200,000 ppm, and wherein the weight ratio of the isothiazolin-3-one to the zinc oxide is from 1:100 to 100:1.

20. (Cancelled)

21. (Previously Presented) The composition of claim 19 wherein component (a) is present in an amount of from 5 to 500 ppm, and component (b) is present in an amount of from 5 to 500 ppm.

22-23. (Cancelled)

24. (Previously Presented) The antimicrobial composition of claim 19 which further comprises a co-biocide selected from the group consisting of pyrrithione salts, pyrrithione acids, and combinations thereof, and wherein said co-biocide is present in said composition in an amount of from about 0.001 to about 1% w/w based on the total weight of said composition.

25-28. (Cancelled)

26. (New) The antimicrobial composition of claim 1, wherein the at least one zinc compound is a zinc salt.

27. (New) The antimicrobial composition of claim 26, wherein the zinc salt is zinc chloride.

28. (New) The antimicrobial composition of claim 1, wherein the composition further comprises a co-biocide selected from the group consisting of pyrrithione salts, pyrrithione acids, and combinations thereof.

29. (New) The coating composition of claim 1, wherein the base medium is selected from the group consisting of acrylic and substituted (meth)acrylates, styrene/butadiene, ethylene vinyl acetate, polyvinyl acetate, styrene/butadiene/N-methylol acrylamide, nitrile and copolymers thereof.

30. (New) The functional fluid composition of claim 10, wherein the at least one zinc compound is a zinc salt.

31. (New) The functional fluid composition of claim 30, wherein the zinc salt is zinc chloride.

32. (New) The coating composition of claim 17, wherein the at least one zinc compound is a zinc salt.

33. (New) The coating composition of claim 32, wherein the zinc salt is zinc chloride.

**REMARKS**

Favorable reconsideration and allowance of the present application in view of the foregoing amendments and following remarks are respectfully requested.

I. Claims

Claims 1-3, 10, 15-17, 19, 21, and 24, including independent claims 1, 10, 17, and 19, are pending in the present application. The pending claims are directed to an antimicrobial composition, a functional fluid composition, and a coating composition.

Claim 1 is directed to an antimicrobial composition comprising (a) at least one isothiazolin-3-one selected from the group consisting of 1,2-benzisothiazolin-3-one, N-(n-butyl)-1,2-benzisothiazolin-3-one, and combinations thereof, (b) at least one zinc compound selected from the group consisting of zinc salts, zinc oxides, zinc hydroxides, and combinations thereof, and (c) at least one polymer base medium. The isothiazolin-3-one is present in an amount of from 1 to 500 ppm. The zinc compound is present in an amount of from 5 to 200,000 ppm. The weight ratio of the isothiazolin-3-one to the zinc compound is from 1:2000 to 100:1.

Claim 10 is directed to a functional fluid composition comprising a polymer emulsion and a wet state preservative. The wet state preservative comprises at least one isothiazolin-3-one selected from the group consisting of 1,2-benzisothiazolin-3-one, N-(n-butyl)-1,2-benzisothiazolin-3-one, and combinations thereof and at least one zinc compound selected from the group consisting of zinc salts, zinc oxides, zinc hydroxides, and combinations thereof. The wet state preservative is present in the fluid composition in a total amount from about 10 ppm to about 400 ppm. The molar ratio of the at least one isothiazolin-3-one to the at least one zinc compound is from about 4:1 and about 1:2.

Claim 17 is directed to a coating composition comprising a base medium and a wet state preservative. The base medium is selected from the group consisting of paints, adhesives, sealants, caulks, mineral and pigment slurries, printing inks, agricultural pesticide formulations, household coating products, personal care products, metal working fluids, and combinations thereof. The wet state preservative comprises at least one isothiazolin-3-one selected from the group consisting of 1,2-benzisothiazolin-3-one, N-(n-butyl)-1,2-benzisothiazolin-3-one, and combinations

thereof and at least one zinc compound selected from the group consisting of zinc salts, zinc oxides, zinc hydroxides, and combinations thereof. The wet state preservative is present in the coating composition in a total amount from about 10 ppm to about 400 ppm. The molar ratio of the at least one isothiazolin-3-one and the at least one zinc compound is from about 4:1 to about 1:2.

Claim 19 is directed to an antimicrobial composition comprising (a) at least one isothiazolin-3-one selected from the group consisting of 1,2-benzisothiazolin-3-one, N-(n-butyl)-1,2-benzisothiazolin-3-one, and combinations thereof, (b) at least one zinc oxide, and (c) a polymer comprising a plurality of monomers selected from a group consisting of acrylic acid, methacrylate, styrene/butadiene, ethylene vinyl acetate, polyvinyl acetate, styrene/butadiene/N-methylol acrylamide, and nitrile. The isothiazolin-3-one is present in an amount from 1 to 500 ppm. The zinc oxide is present in an amount from 5 to 200,000 ppm. The weight ratio of the isothiazolin-3-one to the zinc oxide is from 1:100 to 100:1.

In addition, claims 26-33 have been added to the listing of claims. Applicant respectfully submits such claims are clearly supported by the present specification and that no new matter has been entered by way of these new claims.

## II. Rejection of Claims Under 35 U.S.C. § 103 in View of McCarthy and Wachowiak, Jr.

In the Office Action, claims 1-3, 10, 17, 19, and 21, including independent claims 1, 10, 17, and 19, were rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 4,299,749 to McCarthy et al. (hereinafter "McCarthy") in view of U.S. Patent No. 6,156,108 to Wachowiak, Jr. (hereinafter "Wachowiak, Jr."). However, for the reasons set forth below, Applicant respectfully submits that the combination of McCarthy and Wachowiak, Jr. fails to render the pending claims as obvious.

In order to establish prima facie obviousness, the prior art references must teach or suggest all of the limitations of a claimed invention. MPEP § 2143.03. The Office Action admits that McCarthy fails to teach or suggest a zinc compound, such as zinc oxide. (Office Action of February 25, 2014, page 5, lines 1-2). As a result, the Office Action relies on Wachowiak, Jr. for such teaching. (*Id.* at lines 3-13). The Office Action asserts that it would have been obvious to one of ordinary skill in the art at the time of

the invention to add the zinc oxide of Wachowiak, Jr. to the composition of McCarthy. (Id.). However, Applicant respectfully disagrees.

The Federal Circuit has several times expressly addressed the issue of how to evaluate an alleged case of prima facie obviousness to determine whether it has been properly made. For instance, a prima facie case of obviousness can be rebutted if the references teach away from their combination. In re Grasselli, 713 F.2d 731, 743, 218 U.S.P.Q. 769, 779 (Fed. Cir. 1983), see also MPEP § 2145(X)(D)(1). In this regard, Applicant respectfully submits that the teachings of Wachowiak, Jr. cannot be combined with those of McCarthy because Wachowiak, Jr. teaches away from such combination.

Wachowiak, Jr. is directed to an emulsion-containing surface polish. (Abstract). The polish includes an aliphatic hydrocarbon solvent, a wax, an emulsifier, a resin, and water. (Abstract). However, Wachowiak, Jr. clearly disclaims the use of any dimethyl silicones. For instance, Wachowiak, Jr. provides that these silicones can contaminate surfaces and may be difficult to remove. (Col. 1, lines 39-40). Further, Wachowiak, Jr. even provides that some silicones can crosslink and bond to the surface being polished. (Col. 1, lines 41-42). Accordingly, nowhere does Wachowiak, Jr. disclose the use of any silicones in the polishes disclosed therein. In fact, independent claim 1 expressly requires that the composition does not comprise silicon.

In stark contrast, McCarthy is directed to a coating composition comprising, *inter alia*, a dimethylpolysiloxane antifoaming agent. (Abstract). As is well known in the art, a dimethylpolysiloxane is an organosilicon compound and in particular a dimethyl silicone compound. Further, the dimethylpolysiloxane of McCarthy is not considered optional as the composition requires the presence of the dimethylpolysiloxane in an amount of from 0.0001 to 0.003% by weight. (Col. 2, lines 64-65).

Thus, Applicant respectfully submits that Wachowiak, Jr. teaches away from combining with McCarthy. For instance, upon considering the teachings of Wachowiak, Jr., a person of ordinary skill in the art would not utilize the composition of McCarthy because of the presence of the dimethylpolysiloxane, a dimethyl silicone, which may contaminate surfaces and be difficult to remove. In this regard, a person of ordinary skill in the art would not even consider modifying the composition of McCarthy based on the teachings of Wachowiak, Jr. because of the presence of the dimethylpolysiloxane.

In particular, a person of ordinary skill in the art would not modify the composition of McCarthy by incorporating the zinc oxide of Wachowiak, Jr.

Accordingly, Applicant respectfully submits that there is no motivation for combining the teachings and suggestions of McCarthy and Wachowiak, Jr. except from using Applicant's invention as a template through a hindsight reconstruction Applicant's claims. Ex Parte Crawford, Appeal 2006-2429, May 30, 2007.

Therefore, for the reasons set forth above, Applicant respectfully submits that the combination of McCarthy and Wachowiak, Jr. fails to render the pending claims as obvious.


III. Conclusion

In summary, Applicant respectfully submits that the presently pending claims are in complete condition for allowance. However, should any issues remain after consideration of this response, then Examiner Soroush is invited and encouraged to telephone the undersigned at his convenience.

Please charge any fees required by this response and credit any overpayment to Deposit Account No. 04-1403.

Respectfully submitted,

DORITY & MANNING, P.A.



Anand K. Patel  
Reg. No. 70,705

5/23/2019

Date

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# IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application of:	Thompson, et al.	)	Examiner:	Soroush, Ali
		)		
Serial Number:	11/805,779	)	Group Art Unit:	1617
		)		
Filed:	May 24, 2007	)	Customer Number:	22827
		)		
Confirmation No.:	3981	)	Deposit Account:	04-1403
		)		
Title:	ISOTHIAZOLINONE BIOCIDES ENHANCED BY ZINC IONS	)	Docket Number:	LZA-15
		)		

Commissioner for Patents  
Post Office Box 1450  
Alexandria, VA 22313-1450

Dear Sir:

The following is an Information Disclosure Statement for the captioned patent application, pursuant to 37 CFR Sections 1.56, 1.97, and 1.98.

1. ☒ Attached hereto is:

- a. ☒ A list of materials for consideration per Rule 98(a)(1): 2 pages citing 13 items.
- b. ☒ A legible copy of each patent, publication, or other item listed per Rule 98(1)(2), unless not required per Rule 98 and/or as indicated on the attached list(s): 9 item(s)
- c. ☐ For each non-English language item listed, pursuant to Rule 98(a)(3), a concise explanation of the relevance thereof as it is presently understood by the individual designated in Rule 56(c) most knowledgeable about the content of such items: \_\_\_\_\_

☐ Such explanation is provided in the Search Report from a corresponding application enclosed herewith along with any enclosed translation into English.

2. ☒ This Information Disclosure Statement is being filed [CHECK ONE]:

- a. ☐ WITHIN THREE MONTHS of the application filing date, national stage date of entry, or along with or after a request for continued examination, OR BEFORE the mailing date of a first Office Action on the merits, which ever event occurs last, WHEREFORE per Rule 97(b) NO filing fee or Rule 97(e) certificate is required.
- b. ☒ AFTER the time periods of section 2.a above, but BEFORE a Final Action, Notice of Allowance OR an action that otherwise closes prosecution, WHEREFORE PER Rule 97(c) submitted herewith is [CHECK ONE]:
  - i. ☐ Certification per Rule 97(e); OR
  - ii. ☒ Filing Fee per Rule 17(p) – large entity ..... \$ 180.00
  - iii. ☐ Filing Fee per Rule 17(p) – small entity ..... \$ 90.00
  - iv. ☐ Filing Fee per Rule 17(p) – micro entity ..... \$ 45.00

c. ☐ AFTER a Final Action OR Notice of Allowance, but BEFORE payment of the issue fee, WHEREFORE per Rule 97(d) submitted herewith is:

i. ☐ Certification per Rule 97(e); AND

ii. ☐ Filing Fee per Rule 17(p) – large entity .....\$ 180.00

iii. ☐ Filing Fee per Rule 17(p) – small entity .....\$ 90.00

iv. ☐ Filing Fee per Rule 17(p) – micro entity .....\$ 45.00

3. ☐ Rule 97(e) Certification; per Rule 97(e), the undersigned certifying party make the following certification statement [CHECK ONE]:

a. ☐ That each item of information contained in this Information Disclosure Statement was first cited in a communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this statement; OR

b. ☐ That no item of information contained in this Information Disclosure Statement was cited in a foreign patent office in a counterpart foreign application and to the knowledge of the undersigned after making a reasonable inquiry, was known to any individual designated in Rule 56(c) more than three months prior to the filing of this statement.

CERTIFYING PARTY (if different from bottom signature; omission here indicates that certification is being made by signer per signature below).

Name: .....

Signature: .....

Address: .....

Date: .....

4. ☒ DEPOSIT ACCOUNT AUTHORIZATION: The Commissioner is hereby authorized to charge any fee specifically authorized hereafter, or any fees in addition to the fee(s) filed, or asserted to be filed, or which should have been filed herewith or concerning any paper filed hereafter, and which may be required under Rules 16-18 (deficiency only) now or hereafter relative to this application and the resulting official document under Rule 20, or credit any overpayment, to our Account No. shown in the heading hereof for which purpose a duplicate copy of this sheet is attached. This statement does not authorize charge of the issue fee in this case.

5. ☒ CERTIFICATE OF FILING: This Information Disclosure Statement is being filed pursuant to [CHECK AND COMPLETE ONE]:

a. ☐ First Class Mail Certificate of Mailing under Rule 8:

I hereby certify that this correspondence and all attachments and any fee(s) are being deposited with the United States Postal Service as first class mail in an envelope addressed to Commissioner for Patents, Post Office Box 1450, Alexandria, VA 22313-1450 on .....

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.....  
(Signature of person mailing paper or fee)

b. ☐ "Express Mail" Certificate under Rule 10:

I hereby certify that this correspondence and all attachments and any fee(s) are being deposited with the U.S. Postal Service as "Express Mail Post Office to Addressee" in an envelope addressed to Commissioner for Patents, Post Office Box 1450, Alexandria, VA 22313-1450 on \_\_\_\_\_.

Express Mail Label Number: \_\_\_\_\_

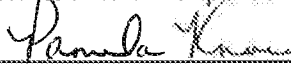
\_\_\_\_\_  
(Typed/printed name of person mailing paper or fee)

\_\_\_\_\_  
(Signature of person mailing paper or fee)

c. ☒ Electronic Filing Certificate

I hereby certify that this correspondence and all attachments and any fee(s) are being electronically transmitted via the internet to the U.S. Patent and Trademark Office using the Electronic Filing System on May 23, 2014.

Pamela Knorr  
(Typed/printed name of person transmitting paper or fee)

  
(Signature of person transmitting paper or fee)

**ADDRESS:**

Post Office Box 1449  
Greenville, SC 29602 USA

Customer ID No.: 22827

Telephone: (864) 271-1592  
Facsimile: (864) 233-7342

**DORITY & MANNING, P.A.**

By: Anand K. Patel

Registration No. 70,705

Signature: 

Date: May 23, 2014

(Rev. 5/92)	Attorney Docket Number: LZA-15	Serial Number: 11/805,779
Information Disclosure Statement List By Applicant(s) Under 37 CFR Section 1.98(a) (1) (Use several sheets if necessary)	Applicant: Thompson, et al.	
	Filing Date: May 24, 2007	Group Art Unit: 1617
	Confirmation No: 3981	

NOTE: If no indication is made in the column marked "COPY NOTE," the required legible copy of the corresponding item is submitted herewith; otherwise, a copy is not required and/or not submitted, for the following reason(s) [corresponding reason number is listed in "COPY NOTE" column]

- (1) This item is cumulative, per Rule 98(c)
- (2) A copy of this item was previously cited by or submitted to the U.S. Patent and Trademark Office in:  
     USSN \_\_\_\_\_, filed \_\_\_\_\_, or  
     USSN \_\_\_\_\_, filed \_\_\_\_\_; Relied on under 35 U.S.C. Section 120, per Rule 98(d)
- (3) Both reasons (1) and (2) apply
- (4) No legible complete copy is possessed, in custody of controlled, or readily available
- (5) Per the U.S. Patent and Trademark Office's waiver of Rule 98(a)(2)(i), the item is a U.S. patent or patent application publication, and the present application was filed after June 30, 2003.

U.S. PATENT DOCUMENTS												
EXAMINER INITIALS		PATENTEE NAME		PATENT NUMBER						ISSUE DATE	COPY NOTE	
		Austin		5	2	9	0	8	1	0	3-1-1994	5

U.S. PATENT APPLICATION PUBLICATIONS												
EXAMINER INITIALS		APPLICANT'S NAME		PUBLICATION NUMBER						PUBLICATION DATE	COPY NOTE	
		El A'mma et al.	2004	0	0	1	4	7	3	6	1-22-2004	5
		Chia et al.	2005	0	1	9	7	3	6	6	9-8-2005	5
		Wachtler et al.	2006	0	1	1	1	4	1	0	5-25-2006	5

FOREIGN PATENT DOCUMENTS							
EXAMINER INITIALS	COUNTRY	DOCUMENT NUMBER	PUBLICATION DATE	TRANSLATION			COPY NOTE
				YES	NO*	N/A	
	WO	94/03146 (w/ English Abstract)	2-17-1994	X			
	WO	00/38520 (w/ English Abstract)	7-6-2000	X			
	WO	2004014416	2-19-2004	X			
	JP	S62-070301 (w/ English Abstract)	3-31-1987	X			
	JP	H04-273852 (corresponds to US 5290810)	9-30-1992	X			
	JP	H09-301805 (w/ English Abstract)	11-25-1997	X			
	JP	2003-055116 (w/ English Abstract)	2-26-2003	X			
	JP	2004-051635 (corresponds to US 2004/0014736)	2-19-2004	X			
	JP	2005-281305 (corresponds to US 2005/0197366)	10-13-2005	X			

\* "NO" means that no copy of an English language translation is within the possession, custody, or control of, or is readily available to any individual designated in Rule 56(c).

(Rev. 5/92) Information Disclosure Statement List By Applicant(s) Under 37 CFR Section 1.98(a) (1) (Use several sheets if necessary)	Attorney Docket Number: LZA-15	Serial Number: 11/805,779
	Applicant: Thompson, et al.	
	Filing Date: May 24, 2007 Confirmation No: 3981	Group Art Unit: 1617

EXAMINER INITIALS	<b>OTHER DOCUMENTS</b> [Specify author (if any), Title, Pertinent Pages, Date & Place of Publication]	COPY NOTE
----------------------	--	--------------

EXAMINER	DATE CONSIDERED
Examiner: initial if citation considered; whether or not citation is in conformance with MPEP 609; draw line through citation if not in conformance and not considered. Include a copy of this form with the next communication to applicant.	

## Electronic Patent Application Fee Transmittal

<b>Application Number:</b>	11805779			
<b>Filing Date:</b>	24-May-2007			
<b>Title of Invention:</b>	Isothiazolinone biocides enhanced by zinc ions			
<b>First Named Inventor/Applicant Name:</b>	Nicholas Edward Thompson			
<b>Filer:</b>	Anand Kalyanbhai Patel/Pamela Knorr			
<b>Attorney Docket Number:</b>	LZA-15			
Filed as Large Entity				
<b>Utility under 35 USC 111(a) Filing Fees</b>				
<b>Description</b>	<b>Fee Code</b>	<b>Quantity</b>	<b>Amount</b>	<b>Sub-Total in USD(\$)</b>
<b>Basic Filing:</b>				
<b>Pages:</b>				
<b>Claims:</b>				
<b>Miscellaneous-Filing:</b>				
<b>Petition:</b>				
<b>Patent-Appeals-and-Interference:</b>				
<b>Post-Allowance-and-Post-Issuance:</b>				
<b>Extension-of-Time:</b>				

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
<b>Miscellaneous:</b>				
Submission- Information Disclosure Stmt	1806	1	180	180
<b>Total in USD (\$)</b>				<b>180</b>

## Electronic Acknowledgement Receipt

<b>EFS ID:</b>	19112444
<b>Application Number:</b>	11805779
<b>International Application Number:</b>	
<b>Confirmation Number:</b>	3981
<b>Title of Invention:</b>	Isothiazolinone biocides enhanced by zinc ions
<b>First Named Inventor/Applicant Name:</b>	Nicholas Edward Thompson
<b>Customer Number:</b>	22827
<b>Filer:</b>	Anand Kalyanbhai Patel/Pamela Knorr
<b>Filer Authorized By:</b>	Anand Kalyanbhai Patel
<b>Attorney Docket Number:</b>	LZA-15
<b>Receipt Date:</b>	23-MAY-2014
<b>Filing Date:</b>	24-MAY-2007
<b>Time Stamp:</b>	11:17:54
<b>Application Type:</b>	Utility under 35 USC 111(a)

### Payment information:

Submitted with Payment	yes
Payment Type	Credit Card
Payment was successfully received in RAM	\$ 180
RAM confirmation Number	7691
Deposit Account	
Authorized User	

### File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi part (if appl.)	Pages (if appl.)
		Sherwin Williams	Exhibit 1102		

1		LZA-15-Amendment052314.pdf	498232 bc38870467915857a9d25c1eb86317475873b730	yes	11
	Multipart Description/PDF files in .zip description				
	Document Description		Start	End	
	Amendment/Req. Reconsideration-After Non-Final Reject		1	3	
	Claims		4	7	
	Applicant Arguments/Remarks Made in an Amendment		8	11	
Warnings:					
Information:					
2		LZA-15-IDSLtrandList052314.pdf	261984 c68b7d7826e6595c8c3574a004dc9ac397be812c	yes	5
	Multipart Description/PDF files in .zip description				
	Document Description		Start	End	
	Transmittal Letter		1	3	
	Information Disclosure Statement (IDS) Form (SB08)		4	5	
Warnings:					
Information:					
3	Foreign Reference	WO9403146A1.pdf	974900 b38bb397f6523c2164663180f60a1844764b269d	no	28
Warnings:					
Information:					
4	Foreign Reference	WO0038520A1.pdf	684313 837a91f6e234b674feeb3d24a338465275936135	no	16
Warnings:					
Information:					
5	Foreign Reference	WO2004014416A1.pdf	1960716 4df3d946d12a1e6007348573afab253f3e316a26	no	51
Warnings:					
Information:					
6	Foreign Reference	JPS62070301withEnglishAbstract.pdf	121474 f5e1c7e2ee5d9a66578e35e85a166c845d053703	no	3
Warnings:					

<b>Information:</b>					
7	Foreign Reference	JPH04273852A.pdf	773572 89180792dbd42fd0897a65d57cdbec60320071c7	no	11
<b>Warnings:</b>					
<b>Information:</b>					
8	Foreign Reference	JPH09301805AwithEnglishAbstract.pdf	842809 4f1b84fb244717da36c030dcca8858b34c83f16	no	18
<b>Warnings:</b>					
<b>Information:</b>					
9	Foreign Reference	JP2003055116AwithEnglishAbstract.pdf	719001 5d902a534af4539330fe109dc6ae715f44d158c8	no	13
<b>Warnings:</b>					
<b>Information:</b>					
10	Foreign Reference	JP2004051635A.pdf	516880 39372b2a6349c4b4a75caf894adfeebc0b21bba	no	11
<b>Warnings:</b>					
<b>Information:</b>					
11	Foreign Reference	JP2005281305A.pdf	444179 ed518a972d2ef25b041da0b6557668d50e38bcad	no	15
<b>Warnings:</b>					
<b>Information:</b>					
12	Fee Worksheet (SB06)	fee-info.pdf	30060 7cb31da55866fd376d7c9cb7c087fd6a23ce31ff	no	2
<b>Warnings:</b>					
<b>Information:</b>					
<b>Total Files Size (in bytes):</b>			7828120		

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

**New Applications Under 35 U.S.C. 111**

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

**National Stage of an International Application under 35 U.S.C. 371**

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

**New International Application Filed with the USPTO as a Receiving Office**

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.



# UNITED STATES PATENT AND TRADEMARK OFFICE


## UNITED STATES DEPARTMENT OF COMMERCE U.S. Patent and Trademark Office

Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
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[www.uspto.gov](http://www.uspto.gov)

22827 e 2014-05-30

DORITY & MANNING, P.A.  
POST OFFICE BOX 1449  
GREENVILLE, SC 29602-1449

**Paper No.**

Application No.: 11/805,779	Date Mailed: 2014-05-30
	
First Named Inventor: Thompson, Nicholas, Edward	Examiner: SOROUGH, ALI
Attorney Docket No.: LZA-15	Art Unit: 1617
Confirmation No.: 3981	Filing Date: 2007-05-24

Please find attached an Office communication concerning this application or proceeding.

Commissioner for Patents

<b>Notice of Non-Compliant Amendment (37 CFR 1.121)</b>	<b>Application No.</b> 11/805,779	<b>Applicant(s)</b> THOMPSON ET AL.
		<b>Art Unit</b> 1700

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

The amendment document filed on 23 May, 2014 is considered non-compliant because it has failed to meet the requirements of 37 CFR 1.121 or 1.4. In order for the amendment document to be compliant, correction of the following item(s) is required.

THE FOLLOWING MARKED (X) ITEM(S) CAUSE THE AMENDMENT DOCUMENT TO BE NON-COMPLIANT:

- ☐ 1. Amendments to the specification:
  - ☐ A. Amended paragraph(s) do not include markings.
  - ☐ B. New paragraph(s) should not be underlined.
  - ☐ C. Other \_\_\_\_\_.
- ☐ 2. Abstract:
  - ☐ A. Not presented on a separate sheet. 37 CFR 1.72.
  - ☐ B. Other \_\_\_\_\_.
- ☐ 3. Amendments to the drawings:
  - ☐ A. The drawings are not properly identified in the top margin as "Replacement Sheet," "New Sheet," or "Annotated Sheet" as required by 37 CFR 1.121(d).
  - ☐ B. The practice of submitting proposed drawing correction has been eliminated. Replacement drawings showing amended figures, without markings, in compliance with 37 CFR 1.84 are required.
  - ☐ C. Other \_\_\_\_\_.
- ☒ 4. Amendments to the claims:
  - ☐ A. A complete listing of all of the claims is not present.
  - ☐ B. The listing of claims does not include the text of all pending claims (including withdrawn claims)
  - ☐ C. Each claim has not been provided with the proper status identifier, and as such, the individual status of each claim cannot be identified. Note: the status of every claim must be indicated after its claim number by using one of the following status identifiers: (Original), (Currently amended), (Canceled), (Previously presented), (New), (Not entered), (Withdrawn) and (Withdrawn-currently amended).
  - ☒ D. The claims of this amendment paper have not been presented in ascending numerical order.
  - ☒ E. Other: See Continuation Sheet.
- ☐ 5. Other (e.g., the amendment is unsigned or not signed in accordance with 37 CFR 1.4): For further explanation of the amendment format required by 37 CFR 1.121, see MPEP § 714.

TIME PERIODS FOR FILING A REPLY TO THIS NOTICE:

1. Applicant is given **no new time period if the non-compliant amendment is an** after-final amendment or an amendment filed after allowance, or a drawing submission (only) If applicant wishes to resubmit the non-compliant after-final amendment with corrections, the **entire corrected amendment** must be resubmitted.
2. Applicant is given **two months** from the mail date of this notice to supply the correction, if the non-compliant amendment is one of the following: a preliminary amendment, a non-final amendment (including a submission for a request for continued examination (RCE) under 37 CFR 1.114), a supplemental amendment filed within a suspension period under 37 CFR 1.103(a) or (c), and an amendment filed in response to a Quayle action. If any of above boxes 1 to 4 are checked, the correction required is only the corrected section of the non-compliant amendment in compliance with 37 CFR 1.121.

**Extensions of time** are available under 37 CFR 1.136(a) only if the non-compliant amendment is a non-final amendment or an amendment filed in response to a *Quayle* action.

**Failure to timely respond** to this notice will result in:

**Abandonment** of the application if the non-compliant amendment is a non-final amendment or an amendment filed in response to a *Quayle* action; or

**Non-entry** of the amendment if the non-compliant amendment is a preliminary amendment or supplemental amendment.

Legal Instruments Examiner (LIE), if applicable /ANGELA JONES/

Telephone No: (571)272-1022

Continuation of 4. Other: Claims 26,27,28 have been duplicated they are (cancelled) and added as new.

<b>PATENT APPLICATION FEE DETERMINATION RECORD</b> Substitute for Form PTO-875				Application or Docket Number <b>11/805,779</b>		Filing Date <b>05/24/2007</b>		<input type="checkbox"/> To be Mailed	
ENTITY: <input checked="" type="checkbox"/> LARGE <input type="checkbox"/> SMALL <input type="checkbox"/> MICRO									
<b>APPLICATION AS FILED – PART I</b>									
(Column 1)			(Column 2)						
FOR		NUMBER FILED	NUMBER EXTRA		RATE (\$)		FEE (\$)		
<input checked="" type="checkbox"/> BASIC FEE (37 CFR 1.16(a), (b), or (c))		N/A	N/A		N/A		<b>300</b>		
<input type="checkbox"/> SEARCH FEE (37 CFR 1.16(k), (i), or (m))		N/A	N/A		N/A				
<input checked="" type="checkbox"/> EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))		N/A	N/A		N/A		<b>200</b>		
TOTAL CLAIMS (37 CFR 1.16(i))		minus 20 =	*		X \$ =				
INDEPENDENT CLAIMS (37 CFR 1.16(h))		minus 3 =	*		X \$ =				
<input type="checkbox"/> APPLICATION SIZE FEE (37 CFR 1.16(s))		If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$310 (\$155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).							
<input type="checkbox"/> MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))									
* If the difference in column 1 is less than zero, enter "0" in column 2.					TOTAL		<b>500</b>		
<b>APPLICATION AS AMENDED – PART II</b>									
(Column 1)			(Column 2)		(Column 3)				
<b>AMENDMENT</b>	<b>05/23/2014</b>	CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE (\$)		ADDITIONAL FEE (\$)	
	Total (37 CFR 1.16(i))	* 10	Minus	** 25	= 0	X \$80 =		0	
	Independent (37 CFR 1.16(h))	* 4	Minus	*** 7	= 0	X \$420 =		0	
	<input type="checkbox"/> Application Size Fee (37 CFR 1.16(s))								
	<input type="checkbox"/> FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))								
						TOTAL ADD'L FEE		<b>0</b>	
(Column 1)			(Column 2)		(Column 3)				
<b>AMENDMENT</b>		CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE (\$)		ADDITIONAL FEE (\$)	
	Total (37 CFR 1.16(i))	*	Minus	**	=	X \$ =			
	Independent (37 CFR 1.16(h))	*	Minus	***	=	X \$ =			
	<input type="checkbox"/> Application Size Fee (37 CFR 1.16(s))								
	<input type="checkbox"/> FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))								
						TOTAL ADD'L FEE			
<p>* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.</p> <p>** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".</p> <p>*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".</p> <p>The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.</p>									

LIE  
/ANGELA JONES/

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

# IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application of:	Thompson et al.	)	Examiner:	Ali Soroush
		)		
Serial Number:	11/805,779	)	Group Art Unit:	1617
		)		
Filed:	May 24, 2007	)	Customer Number:	22827
		)		
Confirmation No.:	3981	)	Deposit Account:	04-1403
		)		
Title:	Isothiazolinone Biocides Enhanced by Zinc Ions	)	Docket Number:	LZA-15
		)		

## RESPONSE TO NOTICE OF NON-COMPLIANT AMENDMENT

Commissioner for Patents  
Post Office Box 1450  
Alexandria, VA 22313-1450

Dear Sir:

This is an amendment in the above-identified application and includes the herewith attachment of same date and subject which is incorporated hereinto by reference and the signature below is to be treated as the signature to the attachment in absence of a signature thereto.

Fee requirements (if any) have been calculated as shown below:

	Claims remaining after amendment		Highest number previously paid for		Present Extra		Amount		Additional Fee
Total Effective Claims		minus		=	0	x	\$ 80	=	\$ 0.00
Independent Claims		minus		=	0	x	\$ 420	=	\$ 0.00

- ☐ 1<sup>st</sup> Request for Continued Examination (\$1200) is requested \$ 0.00
- ☐ 2<sup>nd</sup> Request for Continued Examination (\$1700) is requested \$ 0.00

- ☐ In view of the previously submitted Amendment / Response dated \_\_\_\_\_
- ☐ In view of the enclosed Amendment / Reply
- ☐ In view of the enclosed Affidavit(s) / Declaration(s)
- ☐ In view of the enclosed Information Disclosure Statement

Since Official Action set an original due date of \_\_\_\_\_

**PETITION** is hereby made for an extension to cover the date this  
response is filed for which the requisite fee is enclosed (1 month \$200;  
2 months \$600; 3 months \$1,400; 4 months \$2,200, 5 months \$3,000

\$ 0.00

If amendment enters proper multiple dependent claim(s) into this application  
for first time, add \$780.00 (per application) \$ 0.00

Other: \_\_\_\_\_ \$ 0.00

**SUBTOTAL:** \$ 0.00

If "small entity" verified statement filed ☐ previously,  
☐ herewith, enter one-half (1/2) of subtotal and subtract \$ 0.00

If "micro entity" verified statement filed ☐ previously,  
☐ herewith, enter three-quarters (3/4) of subtotal and subtract \$ 0.00

If Terminal Disclaimer enclosed, add Rule 20(d) Official Fee (\$160.00) \$ 0.00

**TOTAL FEE ENCLOSED:** \$ 0.00

The Commissioner is hereby authorized to charge any fee specifically authorized hereafter, or any fees in addition to the fee(s) filed, or asserted to be filed, or which should have been filed herewith or concerning any paper filed hereafter, and which may be required under Rules 16-18 (deficiency only) now or hereafter relative to this application and the resulting official document under Rule 20, or credit any overpayment, to our Account No. shown in the heading hereof. This statement does not authorize charge of the issue fee in this case.

**DORITY & MANNING ATTORNEYS AT LAW, P.A.**

**ADDRESS:**

Post Office Box 1449  
Greenville, SC 29602 USA  
Customer ID No.: 22827  
Telephone: (864) 271-1592  
Facsimile: (864) 233-7342

By: Anand K. Patel Reg. No: 70,705

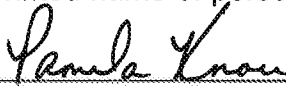
Signature: 

Date: June 13, 2014

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Pamela Knorr

(Typed or printed name of person transmitting documents)



(Signature of person transmitting documents)

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Application of:	Thompson et al.	)	Examiner:	Soroush, Ali
Serial Number:	11/805,779	)	Group Art Unit:	1617
Filed:	May 24, 2007	)	Customer Number:	22827
Confirmation No.:	3981	)	Deposit Account:	04-1403
Title:	Isothiazolinone Biocides Enhanced By Zinc Ions	)		

**AMENDMENT**

Commissioner for Patents  
P. O. Box 1450  
Alexandria, VA 22313-1450

Dear Sir:

In response to the Office Action dated February 25, 2014 and the Notice of Non-Compliant Amendment dated May 30, 2014, Applicant respectfully submits the following amendments and arguments.

**Amendments to the Claims** are reflected in the Listing of Claims that begins on page 2 of this Amendment.

**Remarks** begin on page 6 of this Amendment.

## LISTING OF CLAIMS

1. (Previously Presented) An antimicrobial composition comprising:
  - (a) at least one isothiazolin-3-one selected from the group consisting of 1,2-benzisothiazolin-3-one, N-(n-butyl)-1,2-benzisothiazolin-3-one, and combinations thereof;
  - (b) at least one zinc compound selected from the group consisting of zinc salts, zinc oxides, zinc hydroxides, and combinations thereof; and
  - (c) at least one polymer base medium,wherein said isothiazolin-3-one is present in an amount of from 1 to 500 ppm, wherein the zinc compound is present in an amount of from 5 to 200,000 ppm, and wherein the weight ratio of the isothiazolin-3-one to the zinc compound is from 1:2000 to 100:1.
2. (Currently Amended) The composition of claim 1 wherein ~~component (a) is present in an amount of from 1 to 500 ppm, component (b) is present in an amount of from 5 to 200,000 ppm, and the weight ratio of the isothiazolin-3-one to the zinc compound~~ is from 1:100 to 100:1.
3. (Original) The composition of claim 1 wherein component (a) is present in an amount of from 5 to 500 ppm, and component (b) is present in an amount of from 5 to 500 ppm.
- 4-9. (Cancelled)
10. (Previously Presented) A functional fluid composition comprising:
  - a polymer emulsion; and
  - a wet state preservative comprising at least one isothiazolin-3-one selected from the group consisting of 1,2-benzisothiazolin-3-one, N-(n-butyl)-1,2-benzisothiazolin-3-one, and combinations thereof, and at least one zinc compound selected from the group consisting of zinc salts, zinc oxides, zinc hydroxides, and combinations thereof,wherein said wet state preservative is present in said fluid composition in a total amount from about 10 ppm to about 400 ppm, and wherein the molar ratio of the at least one isothiazolin-3-one to the at least one zinc compound is from about 4:1 and about 1:2.

11-14. (Cancelled)

15. (Original) The composition of claim 10 which further comprises a co-biocide selected from the group consisting of pyrithione salts, pyrithione acids, and combinations thereof, and wherein said co-biocide is present in said composition in an amount of from about 0.001 to about 1.0% w/w based on the total weight of said composition.

16. (Original) The composition of claim 15 wherein said pyrithione salts are selected from the group consisting of copper pyrithione, zinc pyrithione, sodium pyrithione, and combinations thereof.

17. (Previously Presented) A coating composition comprising:  
a base medium selected from the group consisting of paints, adhesives, sealants, caulks, mineral and pigment slurries, printing inks, agricultural pesticide formulations, household coating products, personal care products, metal working fluids, and combinations thereof; and

a wet state preservative comprising at least one isothiazolin-3-one selected from the group consisting of 1,2-benzisothiazolin-3-one, N-(n-butyl)-1,2-benzisothiazolin-3-one, and combinations thereof, and at least one zinc compound selected from the group consisting of zinc salts, zinc oxides, zinc hydroxides, and combinations thereof,

wherein said wet state preservative is present in said coating composition in a total amount from about 10 ppm to about 400 ppm, and wherein the molar ratio of the at least one isothiazolin-3-one and the at least one zinc compound is from about 4:1 to about 1:2.

18. (Cancelled)

19. (Previously Presented) An antimicrobial composition comprising:
- (a) at least one isothiazolin-3-one selected from the group consisting of 1,2-benzisothiazolin-3-one, N-(n-butyl)-1,2-benzisothiazolin-3-one, and combinations thereof;
  - (b) at least one zinc oxide; and
  - (c) a polymer comprising a plurality of monomers selected from a group consisting of acrylic acid, methacrylate, styrene/butadiene, ethylene vinyl acetate, polyvinyl acetate, styrene/butadiene/N-methylol acrylamide, and nitrile,
- wherein said isothiazolin-3-one is present in an amount from 1 to 500 ppm, wherein the zinc oxide is present in an amount from 5 to 200,000 ppm, and wherein the weight ratio of the isothiazolin-3-one to the zinc oxide is from 1:100 to 100:1.
20. (Cancelled)
21. (Previously Presented) The composition of claim 19 wherein component (a) is present in an amount of from 5 to 500 ppm, and component (b) is present in an amount of from 5 to 500 ppm.
- 22-23. (Cancelled)
24. (Previously Presented) The antimicrobial composition of claim 19 which further comprises a co-biocide selected from the group consisting of pyrithione salts, pyrithione acids, and combinations thereof, and wherein said co-biocide is present in said composition in an amount of from about 0.001 to about 1% w/w based on the total weight of said composition.
- 25-28. (Cancelled)
29. (New) The antimicrobial composition of claim 1, wherein the at least one zinc compound is a zinc salt.
30. (New) The antimicrobial composition of claim 29, wherein the zinc salt is zinc chloride.
31. (New) The antimicrobial composition of claim 1, wherein the composition further comprises a co-biocide selected from the group consisting of pyrithione salts, pyrithione acids, and combinations thereof.

32. (New) The coating composition of claim 1, wherein the base medium is selected from the group consisting of acrylic and substituted (meth)acrylates, styrene/butadiene, ethylene vinyl acetate, polyvinyl acetate, styrene/butadiene/N-methylol acrylamide, nitrile and copolymers thereof.

33. (New) The functional fluid composition of claim 10, wherein the at least one zinc compound is a zinc salt.

34. (New) The functional fluid composition of claim 33, wherein the zinc salt is zinc chloride.

35. (New) The coating composition of claim 17, wherein the at least one zinc compound is a zinc salt.

36. (New) The coating composition of claim 35, wherein the zinc salt is zinc chloride.

**REMARKS**

Favorable reconsideration and allowance of the present application in view of the foregoing amendments and following remarks are respectfully requested.

I. Notice of Non-Compliant Amendment

In response to the Notice of Non-Compliant Amendment, Applicant has renumbered the newly added dependent claims as claims 29-36. If any issues remain, the Examiner is encouraged to contact the undersigned for quick resolution.

II. Claims

Claims 1-3, 10, 15-17, 19, 21, and 24, including independent claims 1, 10, 17, and 19, are pending in the present application. The pending claims are directed to an antimicrobial composition, a functional fluid composition, and a coating composition.

Claim 1 is directed to an antimicrobial composition comprising (a) at least one isothiazolin-3-one selected from the group consisting of 1,2-benzisothiazolin-3-one, N-(n-butyl)-1,2-benzisothiazolin-3-one, and combinations thereof, (b) at least one zinc compound selected from the group consisting of zinc salts, zinc oxides, zinc hydroxides, and combinations thereof, and (c) at least one polymer base medium. The isothiazolin-3-one is present in an amount of from 1 to 500 ppm. The zinc compound is present in an amount of from 5 to 200,000 ppm. The weight ratio of the isothiazolin-3-one to the zinc compound is from 1:2000 to 100:1.

Claim 10 is directed to a functional fluid composition comprising a polymer emulsion and a wet state preservative. The wet state preservative comprises at least one isothiazolin-3-one selected from the group consisting of 1,2-benzisothiazolin-3-one, N-(n-butyl)-1,2-benzisothiazolin-3-one, and combinations thereof and at least one zinc compound selected from the group consisting of zinc salts, zinc oxides, zinc hydroxides, and combinations thereof. The wet state preservative is present in the fluid composition in a total amount from about 10 ppm to about 400 ppm. The molar ratio of the at least one isothiazolin-3-one to the at least one zinc compound is from about 4:1 and about 1:2.

Claim 17 is directed to a coating composition comprising a base medium and a wet state preservative. The base medium is selected from the group consisting of paints, adhesives, sealants, caulks, mineral and pigment slurries, printing inks,

agricultural pesticide formulations, household coating products, personal care products, metal working fluids, and combinations thereof. The wet state preservative comprises at least one isothiazolin-3-one selected from the group consisting of 1,2-benzisothiazolin-3-one, N-(n-butyl)-1,2-benzisothiazolin-3-one, and combinations thereof and at least one zinc compound selected from the group consisting of zinc salts, zinc oxides, zinc hydroxides, and combinations thereof. The wet state preservative is present in the coating composition in a total amount from about 10 ppm to about 400 ppm. The molar ratio of the at least one isothiazolin-3-one and the at least one zinc compound is from about 4:1 to about 1:2.

Claim 19 is directed to an antimicrobial composition comprising (a) at least one isothiazolin-3-one selected from the group consisting of 1,2-benzisothiazolin-3-one, N-(n-butyl)-1,2-benzisothiazolin-3-one, and combinations thereof, (b) at least one zinc oxide, and (c) a polymer comprising a plurality of monomers selected from a group consisting of acrylic acid, methacrylate, styrene/butadiene, ethylene vinyl acetate, polyvinyl acetate, styrene/butadiene/N-methylol acrylamide, and nitrile. The isothiazolin-3-one is present in an amount from 1 to 500 ppm. The zinc oxide is present in an amount from 5 to 200,000 ppm. The weight ratio of the isothiazolin-3-one to the zinc oxide is from 1:100 to 100:1.

In addition, claims 29-36 have been added to the listing of claims. Applicant respectfully submits such claims are clearly supported by the present specification and that no new matter has been entered by way of these new claims.

III. Rejection of Claims Under 35 U.S.C. § 103 in View of McCarthy and Wachowiak, Jr.

In the Office Action, claims 1-3, 10, 17, 19, and 21, including independent claims 1, 10, 17, and 19, were rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 4,299,749 to McCarthy et al. (hereinafter "McCarthy") in view of U.S. Patent No. 6,156,108 to Wachowiak, Jr. (hereinafter "Wachowiak, Jr."). However, for the reasons set forth below, Applicant respectfully submits that the combination of McCarthy and Wachowiak, Jr. fails to render the pending claims as obvious.

In order to establish prima facie obviousness, the prior art references must teach or suggest all of the limitations of a claimed invention. MPEP § 2143.03. The Office

Action admits that McCarthy fails to teach or suggest a zinc compound, such as zinc oxide. (Office Action of February 25, 2014, page 5, lines 1-2). As a result, the Office Action relies on Wachowiak, Jr. for such teaching. (Id. at lines 3-13). The Office Action asserts that it would have been obvious to one of ordinary skill in the art at the time of the invention to add the zinc oxide of Wachowiak, Jr. to the composition of McCarthy. (Id.). However, Applicant respectfully disagrees.

The Federal Circuit has several times expressly addressed the issue of how to evaluate an alleged case of prima facie obviousness to determine whether it has been properly made. For instance, a prima facie case of obviousness can be rebutted if the references teach away from their combination. In re Grasselli, 713 F.2d 731, 743, 218 U.S.P.Q. 769, 779 (Fed. Cir. 1983), see also MPEP § 2145(X)(D)(1). In this regard, Applicant respectfully submits that the teachings of Wachowiak, Jr. cannot be combined with those of McCarthy because Wachowiak, Jr. teaches away from such combination.

Wachowiak, Jr. is directed to an emulsion-containing surface polish. (Abstract). The polish includes an aliphatic hydrocarbon solvent, a wax, an emulsifier, a resin, and water. (Abstract). However, Wachowiak, Jr. clearly disclaims the use of any dimethyl silicones. For instance, Wachowiak, Jr. provides that these silicones can contaminate surfaces and may be difficult to remove. (Col. 1, lines 39-40). Further, Wachowiak, Jr. even provides that some silicones can crosslink and bond to the surface being polished. (Col. 1, lines 41-42). Accordingly, nowhere does Wachowiak, Jr. disclose the use of any silicones in the polishes disclosed therein. In fact, independent claim 1 expressly requires that the composition does not comprise silicon.

In stark contrast, McCarthy is directed to a coating composition comprising, *inter alia*, a dimethylpolysiloxane antifoaming agent. (Abstract). As is well known in the art, a dimethylpolysiloxane is an organosilicon compound and in particular a dimethyl silicone compound. Further, the dimethylpolysiloxane of McCarthy is not considered optional as the composition requires the presence of the dimethylpolysiloxane in an amount of from 0.0001 to 0.003% by weight. (Col. 2, lines 64-65).

Thus, Applicant respectfully submits that Wachowiak, Jr. teaches away from combining with McCarthy. For instance, upon considering the teachings of Wachowiak, Jr., a person of ordinary skill in the art would not utilize the composition of McCarthy

because of the presence of the dimethylpolysiloxane, a dimethyl silicone, which may contaminate surfaces and be difficult to remove. In this regard, a person of ordinary skill in the art would not even consider modifying the composition of McCarthy based on the teachings of Wachowiak, Jr. because of the presence of the dimethylpolysiloxane. In particular, a person of ordinary skill in the art would not modify the composition of McCarthy by incorporating the zinc oxide of Wachowiak, Jr.

Accordingly, Applicant respectfully submits that there is no motivation for combining the teachings and suggestions of McCarthy and Wachowiak, Jr. except from using Applicant's invention as a template through a hindsight reconstruction Applicant's claims. Ex Parte Crawford, Appeal 2006-2429, May 30, 2007.

Therefore, for the reasons set forth above, Applicant respectfully submits that the combination of McCarthy and Wachowiak, Jr. fails to render the pending claims as obvious.

IV. Conclusion

In summary, Applicant respectfully submits that the presently pending claims are in complete condition for allowance. However, should any issues remain after consideration of this response, then Examiner Soroush is invited and encouraged to telephone the undersigned at his convenience.

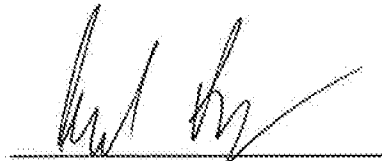
Please charge any fees required by this response and credit any overpayment to Deposit Account No. 04-1403.

Respectfully submitted,

DORITY & MANNING, P.A.

6-13-2015

Date



Anand K. Patel  
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Greenville, SC 29602  
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## Electronic Acknowledgement Receipt

<b>EFS ID:</b>	19296985
<b>Application Number:</b>	11805779
<b>International Application Number:</b>	
<b>Confirmation Number:</b>	3981
<b>Title of Invention:</b>	Isothiazolinone biocides enhanced by zinc ions
<b>First Named Inventor/Applicant Name:</b>	Nicholas Edward Thompson
<b>Customer Number:</b>	22827
<b>Filer:</b>	Anand Kalyanbhai Patel/Pamela Knorr
<b>Filer Authorized By:</b>	Anand Kalyanbhai Patel
<b>Attorney Docket Number:</b>	LZA-15
<b>Receipt Date:</b>	13-JUN-2014
<b>Filing Date:</b>	24-MAY-2007
<b>Time Stamp:</b>	11:59:49
<b>Application Type:</b>	Utility under 35 USC 111(a)

### Payment information:

Submitted with Payment	no
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### File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		LZA-15-Response_Noncompliant_Amendment061314.pdf	513714 7d567bdaa481469474b782f44ba51ab6349a2557	yes	11

	Multipart Description/PDF files in .zip description		
	Document Description	Start	End
	Amendment/Req. Reconsideration-After Non-Final Reject	1	3
	Claims	4	7
	Applicant Arguments/Remarks Made in an Amendment	8	11
Warnings:			
Information:			
Total Files Size (in bytes):		513714	
<p>This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.</p> <p><b><u>New Applications Under 35 U.S.C. 111</u></b> If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.</p> <p><b><u>National Stage of an International Application under 35 U.S.C. 371</u></b> If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.</p> <p><b><u>New International Application Filed with the USPTO as a Receiving Office</u></b> If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.</p>			

<b>PATENT APPLICATION FEE DETERMINATION RECORD</b> Substitute for Form PTO-875	Application or Docket Number <b>11/805,779</b>	Filing Date <b>05/24/2007</b>	<input type="checkbox"/> To be Mailed
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ENTITY: ☒ LARGE ☐ SMALL ☐ MICRO

**APPLICATION AS FILED – PART I**

(Column 1)

(Column 2)

FOR	NUMBER FILED	NUMBER EXTRA	RATE (\$)	FEE (\$)
<input type="checkbox"/> BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A	
<input type="checkbox"/> SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A	N/A	
<input type="checkbox"/> EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A	
TOTAL CLAIMS (37 CFR 1.16(i))	minus 20 =	*	X \$ =	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*	X \$ =	
<input type="checkbox"/> APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$310 (\$155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).			
<input type="checkbox"/> MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))				
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL	

**APPLICATION AS AMENDED – PART II**

(Column 1)

(Column 2)

(Column 3)

AMENDMENT	06/13/2014	CLAIMS REMAINING AFTER AMENDMENT	Minus	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE (\$)	ADDITIONAL FEE (\$)
	Total (37 CFR 1.16(i))	* 18	Minus	** 25	= 0	X \$80 =	0
	Independent (37 CFR 1.16(h))	* 4	Minus	*** 7	= 0	X \$420 =	0
	<input type="checkbox"/> Application Size Fee (37 CFR 1.16(s))						
	<input type="checkbox"/> FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))						
TOTAL ADD'L FEE						<b>0</b>	

(Column 1)

(Column 2)

(Column 3)

AMENDMENT	CLAIMS REMAINING AFTER AMENDMENT	Minus	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE (\$)	ADDITIONAL FEE (\$)
	Total (37 CFR 1.16(i))	*	Minus	**	=	X \$ =
	Independent (37 CFR 1.16(h))	*	Minus	***	=	X \$ =
	<input type="checkbox"/> Application Size Fee (37 CFR 1.16(s))					
	<input type="checkbox"/> FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))					
TOTAL ADD'L FEE						

\* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.

\*\* If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".

\*\*\* If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".

The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.

LIE  
/Tina J. Barden/

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.



# UNITED STATES PATENT AND TRADEMARK OFFICE

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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11/805,779

05/24/2007

Nicholas Edward Thompson

LZA-15

3981

22827 7590 10/07/2014  
DORITY & MANNING, P.A.  
POST OFFICE BOX 1449  
GREENVILLE, SC 29602-1449

EXAMINER

SOROUGH, ALI

ART UNIT

PAPER NUMBER

1617

MAIL DATE

DELIVERY MODE

10/07/2014

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 11/805,779	<b>Applicant(s)</b> THOMPSON ET AL.	
	<b>Examiner</b> ALI SOROUGH	<b>Art Unit</b> 1617	<b>AIA (First Inventor to File) Status</b> No

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTHS FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 06/13/2014.  
☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on \_\_\_\_.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on \_\_\_\_; the restriction requirement and election have been incorporated into this action.
- 4) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims\*

- 5) ☒ Claim(s) 1-3, 10, 15-17, 19, 21, 24 and 29-36 is/are pending in the application.  
5a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 6) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 7) ☒ Claim(s) 1-3, 10, 15-17, 19, 21, 24 and 29-36 is/are rejected.
- 8) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 9) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

\* If any claims have been determined allowable, you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see [http://www.uspto.gov/patents/init\\_events/pph/index.jsp](http://www.uspto.gov/patents/init_events/pph/index.jsp) or send an inquiry to [PPHfeedback@uspto.gov](mailto:PPHfeedback@uspto.gov).

### Application Papers

- 10) ☐ The specification is objected to by the Examiner.
- 11) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

#### Certified copies:

- a) ☐ All    b) ☐ Some\*\*    c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\*\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☒ Information Disclosure Statement(s) (PTO/SB/08a and/or PTO/SB/08b)  
Paper No(s)/Mail Date 05232014.
- 3) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 4) ☐ Other: \_\_\_\_.

The present application is being examined under the pre-AIA first to invent provisions.

## **DETAILED ACTION**

### ***Acknowledgement of Receipt***

Applicant's response filed on 06/13/2014 to the Office Action mailed on 02/25/2014 is acknowledged.

### ***Claim Status***

Claims 1-3, 10, 15-17, 19, 21, 24, and 29-36 are pending.

Claims 4-9, 11-14, 18, 20, 22, 23, and 25-28 were previously cancelled.

Claim 2 is currently amended.

Claims 29-36 are newly added.

Claims 1-3, 10, 15-17, 19, 21, 24, and 29-36 have been examined.

Claims 1-3, 10, 15-17, 19, 21, 24, and 29-36 are rejected.

### ***Priority***

Priority to 60/808,697 filed on 05/26/2006 is acknowledged.

### ***Maintained and New Claim Rejections – 35 USC § 103***

The following is a quotation of pre-AIA 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under pre-AIA 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under pre-AIA 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of pre-AIA 35 U.S.C. 103(c) and potential pre-AIA 35 U.S.C. 102(e), (f) or (g) prior art under pre-AIA 35 U.S.C. 103(a).

This rejection is reiterated from the previous Office Action.

Claims 1, 2, 3, 10, 17, 19, and 21 and new claim 32 are rejected under pre-AIA 35 U.S.C. 103(a) as being unpatentable over McCarthy et al. (US Patent 4299749, Published 11/10/1981) in view of Wachowiak, Jr. (US Patent 6156108, Published 12/05/2000).

The claims are directed to a composition comprising 5 to 500pm isothiazolin-3-one, about 10 to 500pm zinc oxide, and a polymer emulsion base medium. The claims are further directed to the isothiazolin-3-one is 1,2-benzisothiazolin-3-one. The claims are further directed to the ratio of isothiazolin-3-one to zinc is from 4:1 to 1:2. The claims are further directed to the polymer comprise a plurality of monomers selected from acrylic acid and/or methacrylate.

McCarthy et al. teach a floor polish composition (title and abstract) comprising 155-175ppm 1,2-benzisothiazolin-3-one and a polymer emulsion comprising ethyl acrylate, butyl acrylate, methyl methacrylate and acrylic acid monomers (column 8, lines 50-68 and column 9, lines 1-18).

McCarthy et al. lacks a teaching wherein the composition comprises a zinc compound such as zinc oxide.

Wachowiak, Jr. teaches a floor polish composition (abstract and column 1, lines 15-24) which may further comprise modifiers such as preservatives and ultraviolet light inhibitors (column 2, lines 30-32). The preservative and ultraviolet light inhibitor can be selected from zinc oxide and be present in the composition in an amount of 10000-30000 ppm (column 5, lines 15-22).

It would have been prima facie obvious to one of ordinary skill in the art at the time of the instant invention to add zinc oxide to the composition of McCarthy et al. and have a reasonable expectation of success. One would have been motivated to do so in order to provide the floor polish composition of McCarthy et al. with preservative and

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ultraviolet light inhibitor properties. Therefore, the instant claims are rendered obvious by the teachings of the prior art.

***Response to Applicant's Arguments***

Applicant argues that there is no motivation to combine the compositions of McCarthy et al. with Wachowiak, Jr. since Wachowiak teaches against adding silicone and McCarthy et al. requires silicone, therefore the Wachowiak, Jr. teaches away from combining the two compositions. Applicant's argument has been fully considered but found not to be persuasive. In response to applicant's argument, the test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981). In the instant case, the Examiner has relied on the teachings of Wachowiak, Jr. to show that one would have been motivated to add a zinc oxide to the composition of McCarthy et al. and have a reasonable expectation of success. Since, Wachowiak, Jr. teaches that zinc oxide is a known additive for floor polish and would provide the floor polish composition of McCarthy et al. with preservative and ultraviolet light inhibitor properties. Therefore, the rejection is maintained.

This rejection is reiterated from the previous Office Action.

Claims 15, 16, and 24 rejected under pre-AIA 35 U.S.C. 103(a) as being unpatentable over McCarthy et al. (US Patent 4299749, Published 11/10/1981) in view of Wachowiak, Jr. (US Patent 6156108, Published 12/05/2000) as applied to claim 1, 2, 3, 10, 17, 19, and 21 and new claim 32 above, and further in view of Blue (US Patent 3976501, Published 08/24/1976).

The claims are further directed to the composition comprising a co-biocide such as zinc pyrithione in an amount of 0.001 to 1.0%.

The teachings of McCarthy et al. and Wachowiak, Jr. are discussed above.

McCarthy et al. lacks a teaching wherein the composition comprises a co-biocide.

Blue teaches floor polishing composition comprising 0.05 to 0.5% bacteriostatic agent zinc pyrithione (prior art claim 1).

It would have been prima facie obvious to one of ordinary skill in the art at the time of the instant invention to add zinc pyrithione to the composition of McCarthy et al. and have a reasonable expectation of success. One would have been motivated to do so in order to provide the floor polish composition of McCarthy et al. with additional bacteriostatic properties. Therefore, the instant claims are rendered obvious by the teachings of the prior art.

### ***Response to Applicant's Arguments***

There are no further arguments with regard to the rejection. Therefore, the rejection is maintained.

This is a new ground of rejection necessitated by the amendment to the claims.

Claims 1, 2, 3, 10, 17, 19, and 21 and new claims 30-36 are rejected under pre-AIA 35 U.S.C. 103(a) as being unpatentable over McCarthy et al. (US Patent 4299749, Published 11/10/1981) in view of Sullivan et al. (US Patent 3403119, Published 09/24/1968).

The claims are directed to a composition comprising 5 to 500pm isothiazolin-3-one, about 10 to 500pm zinc chloride, and a polymer emulsion base medium. The claims are further directed to the isothiazolin-3-one is 1,2-benzisothiazolin-3-one. The claims are further directed to the ratio of isothiazolin-3-one to zinc is from 4:1 to 1:2. The claims are further directed to the polymer comprise a plurality of monomers selected from acrylic acid and/or methacrylate.

McCarthy et al. teach a floor polish composition (title and abstract) comprising 155-175ppm 1,2-benzisothiazolin-3-one and a polymer emulsion comprising ethyl acrylate, butyl acrylate, methyl methacrylate and acrylic acid monomers (column 8, lines 50-68 and column 9, lines 1-18).

McCarthy et al. lacks a teaching wherein the composition comprises a zinc compound such as zinc chloride.

Sullivan et al. teach the addition of a polyvalent metal such as zinc chloride functions as a leveling agent and facilitates the removal of the applied polish from the flooring (column 19, lines 45-54). The amount of polyvalent metal in the polish is from 5 to 100 parts by weight per 100 parts by weight of polymeric component (prior art claim 3).

It would have been prima facie obvious to one of ordinary skill in the art at the time of the instant invention to add zinc chloride to the composition of McCarthy et al. and have a reasonable expectation of success. One would have been motivated to do so in order to provide the floor polish composition of McCarthy et al. with a leveling agent and the property of facilitating the removal of the applied polish from the flooring. Therefore, the instant claims are rendered obvious by the teachings of the prior art.

### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ALI SOROUSH whose telephone number is (571)272-9925. The examiner can normally be reached on M, W-F (9am-7:30pm).

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Johann Richter can be reached on (571)272-0646. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/ALI SOROUGH/  
Primary Examiner, Art Unit 1617

September 30, 2014

<b>Notice of References Cited</b>	Application/Control No. 11/805,779	Applicant(s)/Patent Under Reexamination THOMPSON ET AL.	
	Examiner ALI SOROUGH	Art Unit 1617	Page 1 of 1

**U.S. PATENT DOCUMENTS**

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
*	A	US-3,403,119	09-1968	MCCARTHY FRANCIS L et al.	524/399
	B	US-			
	C	US-			
	D	US-			
	E	US-			
	F	US-			
	G	US-			
	H	US-			
	I	US-			
	J	US-			
	K	US-			
	L	US-			
	M	US-			

**FOREIGN PATENT DOCUMENTS**

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
	N					
	O					
	P					
	Q					
	R					
	S					
	T					

**NON-PATENT DOCUMENTS**

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
	U	
	V	
	W	
	X	

\*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)  
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
S1	14532	tannic adj acid	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/25 19:49
S2	14946	(tannic adj acid) (Acidum adj tannicum) (Gallotannic adj acid) (Digallic adj acid) Gallotannin Tannimum Quercitannin (Oak adj bark adj tannin) (Quercotannic adj acid) ("Querci-tannic" adj acid) ("Querco- tannic" adj acid)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/25 19:51
S3	42037	potassium adj iodide	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/25 19:52
S4	10	S2 near3 S3	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/25 19:52
S5	90	S2 with S3	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/25 20:02
S6	0	S5 same ((ascrobic adj acid) (vitamin adj "c"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/25 20:03
S7	5	S5 and ((ascrobic adj acid) (vitamin adj "c"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/25 20:03
S8	79	S5 and ((ascrobic adj acid) (vitamin	US-PGPUB;	OR	ON	2011/03/25

		adj "c"))	USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB			20:04
S9	73	S5 same ((ascorbic adj acid) (vitamin adj "c"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/25 20:04
S10	73	S5 with ((ascorbic adj acid) (vitamin adj "c"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/25 20:04
S11	0	S5 with topical	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/25 20:08
S12	6	S5 same topical	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/25 20:08
S13	1	09/101623.app.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/27 12:37
S14	465	glycerol near3 emollient	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/27 12:43
S15	87	glycerol near emollient	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/27 12:43
S16	9	hydrogel with (xanthum adj gum)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT;	OR	ON	2011/03/27 12:49

			IBM_TDB			
S17	34184	(benzalkonium adj chloride)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/27 12:54
S18	14	S17 with octoxyglycerin	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/27 12:55
S19	11	octoxyglycerin with (synergy synergistic)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/27 12:55
S20	573	zinc with chondroitin	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/27 13:05
S21	10	S20 same anemia	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/27 13:05
S22	2	"5516510".pn.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/27 13:12
S23	0	(zinc adj oxide) with (isothiazilnone)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/27 13:19
S24	0	(isothiazilnone)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/27 13:19
S25	432	isothiazolin-3-one	US-PGPUB; USPAT; USOCR; FPRS; EPO;	OR	ON	2011/03/27 13:20

			JPO; DERWENT; IBM_TDB			
S26	4	S25 with (zinc adj oxide)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/27 13:20
S27	12	S25 same (zinc adj oxide)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/27 13:22
S28	1472	benzisothiazoline	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/27 13:40
S29	161	S28 with preservative	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/27 13:41
S30	28	benzisothiazoline-3-one	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/27 13:42
S31	0	S30 with preservative	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/27 13:42
S32	0	S30 with (zinc adj oxide)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/27 13:43
S33	0	S30 same (zinc adj oxide)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/27 13:43
S34	3	S30 same zinc	US-PGPUB; USPAT;	OR	ON	2011/03/27 13:43

			USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB			
S35	1994	paint with (zinc adj oxide)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/27 13:52
S36	45	(latex adj paint) with (zinc adj oxide)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/27 13:52
S37	510	(latex adj paint) with thickener	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/27 13:56
S38	367	S37 and (zinc oxide)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/27 13:56
S39	104	S37 and (zinc adj oxide)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/27 13:57
S40	2	"20060269616"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/28 10:52
S41	12	2004/0022869	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/28 11:22
S42	2	"20040022869"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/28 11:22

S43	2	"5227156".pn.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/28 12:04
S44	26	(zinc adj pyrrhione) with irritant	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/28 12:14
S45	3	(zinc adj sulfate) with dandruff	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/28 12:37
S46	156	(zinc adj sulfate) with pyrrhione	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/28 12:37
S47	1	S46 same dandruff	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/28 12:38
S48	29	(zinc adj sulfate) same dandruff	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/28 12:39
S49	950	ketoconazole with pyrrhione	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/28 12:44
S50	175	S49 with dandruff	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/28 12:44
S51	2	"5227156".pn.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO;	OR	ON	2012/01/09 18:27

			DERWENT; IBM_TDB			
S52	2	"5227156".pn.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/06/17 13:53
S53	92	(polymer near3 emulsion) with shampoo	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/06/17 14:47
S54	3103	benzothiazolin	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/06/17 14:53
S55	42	S54 with (acrylate (acrylic adj acid) methacrylate (polyvinyl adj acetate))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/06/17 14:54
S56	431	polish with zinc	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/06/17 15:02
S57	86	polish with (zinc adj oxide)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/06/17 15:33
S58	1120	(furniture adj polish)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/06/17 15:43
S59	3	S58 same (zinc adj oxide)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/06/17 15:43
S60	11	S55 same zinc	US-PGPUB; USPAT; USOCR;	OR	ON	2012/06/17 15:44

			FPRS; EPO; JPO; DERWENT; IBM_TDB			
S61	1	10/498902.app.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/06/17 15:47
S62	17342	polymer adj emulsion	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/06/17 15:52
S63	47	S62 same shampoo	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/06/17 15:53
S64	364	(polymer near3 emulsion) with zinc	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/06/17 15:54
S65	123	(polymer near3 emulsion) with (zinc adj oxide)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/06/17 15:59
S66	385	(acrylate (acrylic adj acid) methacrylate (polyvinyl adj acetate)) with shampoo	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/06/17 16:06
S67	48	(acrylate (acrylic adj acid) methacrylate (polyvinyl adj acetate)) near5 shampoo	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/06/17 16:06
S68	4251	Benzisothiazolinone "Benzisothiazolin- 3-one" Benzisothiazolone "1,2- benzisothiazol-3(2H)-one" "1,2- Benzisothiazolin-3-one"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2013/07/31 13:52
S69	87	S68 near5 zinc	US-PGPUB;	OR	ON	2013/07/31

			USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB			13:52
S70	2	"5444078".pn.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2013/07/31 14:14
S71	11	S68 near5 (zinc adj (chloride oxide))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2013/07/31 14:17
S72	59	S68 with (zinc adj (chloride oxide))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2013/07/31 15:17
S73	3	S72 same polymer	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2013/07/31 15:23
S74	77	S68 with (zinc near3 (salt hydroxide))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2013/07/31 15:25
S75	1357	(zinc adj pyrrhione) with salt	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2013/07/31 15:29
S76	508	(zinc adj pyrrhione) near3 salt	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2013/07/31 15:29
S77	2	"20050101487"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT;	OR	ON	2013/07/31 15:37

			IBM_TDB			
S78	1128	benzothiazolin\$3one	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/02/23 15:55
S79	26	S78 same paint	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/02/23 15:55
S80	71	S78 with zinc	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/02/23 15:59
S81	54	S78 with emulsion	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/02/23 16:23
S82	5	S78 near5 emulsion	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/02/23 16:23
S83	26	(acrylic near5 sheet) same (zinc adj oxide)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/02/23 16:44
S84	8	(counter adj top) same (zinc adj oxide)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/02/23 16:47
S85	20	S78 with polymer	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/02/23 16:51
S86	34	proxel with paint	US-PGPUB; USPAT; USOCR; FPRS; EPO;	OR	ON	2014/02/23 17:00

			JPO; DERWENT; IBM_TDB			
S87	90	proxel same paint	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/02/23 17:01
S88	448	proxel same acrylic	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/02/23 17:11
S89	58	(floor near3 (coating polishing)) same (zinc adj oxide)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/02/23 17:22
S90	2	(floor near3 (coating polishing)) same (pyrithione)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/02/23 18:38

9/ 30/ 2014 5:11:52 PM  
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(Rev. 5/92)	Attorney Docket Number: LZA-15	Serial Number: 11/805,779
Information Disclosure Statement List By Applicant(s) Under 37 CFR Section 1.98(a) (1) (Use several sheets if necessary)	Applicant: Thompson, et al.	
	Filing Date: May 24, 2007	Group Art Unit: 1617
	Confirmation No: 3981	

NOTE: If no indication is made in the column marked "COPY NOTE," the required legible copy of the corresponding item is submitted herewith; otherwise, a copy is not required and/or not submitted, for the following reason(s) [corresponding reason number is listed in "COPY NOTE" column]

- (1) This item is cumulative, per Rule 98(c)
- (2) A copy of this item was previously cited by or submitted to the U.S. Patent and Trademark Office in:  
     USSN \_\_\_\_\_, filed \_\_\_\_\_, or  
     USSN \_\_\_\_\_, filed \_\_\_\_\_; Relied on under 35 U.S.C. Section 120, per Rule 98(d)
- (3) Both reasons (1) and (2) apply
- (4) No legible complete copy is possessed, in custody of controlled, or readily available
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U.S. PATENT DOCUMENTS										
EXAMINER INITIALS	PATENTEE NAME	PATENT NUMBER							ISSUE DATE	COPY NOTE
/A.S./	Austin	5	2	9	0	8	1	0	3-1-1994	5

U.S. PATENT APPLICATION PUBLICATIONS											
EXAMINER INITIALS	APPLICANT'S NAME		PUBLICATION NUMBER							PUBLICATION DATE	COPY NOTE
/A.S./ ↓	El A'mma et al.	2004	0	0	1	4	7	3	6	1-22-2004	5
	Chia et al.	2005	0	1	9	7	3	6	6	9-8-2005	5
	Wachtler et al.	2006	0	1	1	1	4	1	0	5-25-2006	5

FOREIGN PATENT DOCUMENTS							
EXAMINER INITIALS	COUNTRY	DOCUMENT NUMBER	PUBLICATION DATE	TRANSLATION			COPY NOTE
				YES	NO*	N/A	
/A.S./	WO	94/03146 (w/ English Abstract)	2-17-1994	X			
↓	WO	00/38520 (w/ English Abstract)	7-6-2000	X			
	WO	2004014416	2-19-2004	X			
	JP	S62-070301 (w/ English Abstract)	3-31-1987	X			
	JP	H04-273852 (corresponds to US 5290810)	9-30-1992	X			
	JP	H09-301805 (w/ English Abstract)	11-25-1997	X			
	JP	2003-055116 (w/ English Abstract)	2-26-2003	X			
	JP	2004-051635 (corresponds to US 2004/0014736)	2-19-2004	X			
↓	JP	2005-281305 (corresponds to US 2005/0197366)	10-13-2005	X			

\* "NO" means that no copy of an English language translation is within the possession, custody, or control of, or is readily available to any individual designated in Rule 56(c).


Receipt date: 05/23/2014

11805779 - GAU: 1617

(Rev. 5/92) Information Disclosure Statement List By Applicant(s) Under 37 CFR Section 1.98(a) (1) (Use several sheets if necessary)	Attorney Docket Number: LZA-15	Serial Number: 11/805,779
	Applicant: Thompson, et al.	
	Filing Date: May 24, 2007 Confirmation No: 3981	Group Art Unit: 1617

EXAMINER INITIALS	<b>OTHER DOCUMENTS</b> [Specify author (if any), Title, Pertinent Pages, Date & Place of Publication]	COPY NOTE
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EXAMINER /Ali Soroush/	DATE CONSIDERED 09/30/2014
Examiner: initial if citation considered; whether or not citation is in conformance with MPEP 609; draw line through citation if not in conformance and not considered. Include a copy of this form with the next communication to applicant.	

<b>Search Notes</b>  	<b>Application/Control No.</b>  11805779	<b>Applicant(s)/Patent Under Reexamination</b>  THOMPSON ET AL.
	<b>Examiner</b>  ALI SOROUGH	<b>Art Unit</b>  1616

CPC- SEARCHED		
Symbol	Date	Examiner

CPC COMBINATION SETS - SEARCHED		
Symbol	Date	Examiner

US CLASSIFICATION SEARCHED			
Class	Subclass	Date	Examiner

SEARCH NOTES		
Search Notes	Date	Examiner
see search history printouts	09/30/2014	AS
Inventors/Assignee search PALM/EAST (Nicholas Edward Thompson, Malcom Greenhalgh, Fitzgerald Clarke, Arch Chemicals)	09/30/2014	AS

INTERFERENCE SEARCH			
US Class/ CPC Symbol	US Subclass / CPC Group	Date	Examiner

/ALI SOROUGH/ Primary Examiner.Art Unit 1617	
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# IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application of:	Thompson, et al.	)	Examiner:	Ali Soroush
Serial Number:	11/805,779	)	Group Art Unit:	1617
Filed:	May 24, 2007	)	Customer Number:	22827
Confirmation No.:	3981	)	Deposit Account:	04-1403
Title:	Isothiazolinone Biocides Enhanced by Zinc Ions	)	Docket Number:	LZA-15 (P1165US01)

## REQUEST FOR CONTINUED EXAMINATION AND AMENDMENT

Commissioner for Patents  
Post Office Box 1450  
Alexandria, VA 22313-1450

Dear Sir:

This is an amendment in the above-identified application and includes the herewith attachment of same date and subject which is incorporated hereinto by reference and the signature below is to be treated as the signature to the attachment in absence of a signature thereto.

Fee requirements (if any) have been calculated as shown below:

	Claims remaining after amendment		Highest number previously paid for		Present Extra		Amount		Additional Fee
Total Effective Claims	20	minus	25	=	0	x	\$ 80	=	\$ 0.00
Independent Claims	4	minus	7	=	0	x	\$ 420	=	\$ 0.00

☐ 1<sup>st</sup> Request for Continued Examination (\$1200) is requested \$ 0.00  
☒ Request for Continued Examination (\$1700) is requested \$ 1700.00

- ☐ In view of the previously submitted Amendment / Response dated \_\_\_\_\_  
☒ In view of the enclosed Amendment / Reply  
☐ In view of the enclosed Affidavit(s) / Declaration(s)  
☐ In view of the enclosed Information Disclosure Statement

Since Official Action set an original due date of January 7, 2015,

PETITION is hereby made for an extension to cover the date this  
response is filed for which the requisite fee is enclosed (1 month \$200;  
2 months \$600; 3 months \$1,400; 4 months \$2,200; 5 months \$3,000

\$ 600.00

If amendment enters proper multiple dependent claim(s) into this application  
for first time, add \$780.00 (per application) \$ 0.00

Other: \_\_\_\_\_ \$ 0.00

**SUBTOTAL:** \$ 2300.00

If "small entity" verified statement filed ☐ previously,  
☐ herewith, enter one-half (1/2) of subtotal and subtract - \$ 0.00

If "micro entity" verified statement filed ☐ previously,  
☐ herewith, enter three-quarters (3/4) of subtotal and subtract - \$ 0.00

If Terminal Disclaimer enclosed, add Rule 20(d) Official Fee (\$160.00) \$ 0.00

**TOTAL FEE ENCLOSED:** \$ 2300.00

The Commissioner is hereby authorized to charge any fee specifically authorized hereafter, or any fees in addition to the fee(s) filed, or asserted to be filed, or which should have been filed herewith or concerning any paper filed hereafter, and which may be required under Rules 16-18 (deficiency only) now or hereafter relative to this application and the resulting official document under Rule 20, or credit any overpayment, to our Account No. shown in the heading hereof. This statement does not authorize charge of the issue fee in this case.

**DORITY & MANNING ATTORNEYS AT LAW, P.A.**

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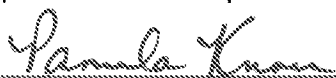
Signature: 

Date: March 2, 2015

I hereby certify that this correspondence and all attachments and any fee(s) are being electronically transmitted via the internet to the U.S. Patent and Trademark Office using the Electronic Patent Filing System on March 2, 2015.

Pamela Knorr

(Typed or printed name of person transmitting documents)



(Signature of person transmitting documents)

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Application of:	Thompson et al.	)	Examiner:	Soroush, Ali
		)		
Serial Number:	11/805,779	)	Group Art Unit:	1617
		)		
Filed:	May 24, 2007	)	Customer Number:	22827
		)		
Confirmation No.:	3981	)	Deposit Account:	04-1403
		)		
Title:	Isothiazolinone Biocides Enhanced By Zinc Ions	)	Attorney Docket No.:	LZA-15 (P1165US01)
		)		

**REQUEST FOR CONTINUED EXAMINATION AND AMENDMENT**

Commissioner for Patents  
P. O. Box 1450  
Alexandria, VA 22313-1450

Dear Sir:

In response to the Office Action dated October 7, 2014 and in conjunction with the Request for Continued Examination submitted herewith, Applicant respectfully submits the following amendments and arguments.

**Amendments to the Claims** are reflected in the Listing of Claims that begins on page 2 of this Amendment.

**Remarks** begin on page 5 of this Amendment.

### LISTING OF CLAIMS

1. (Currently Amended) An antimicrobial composition comprising:
  - (a) at least one isothiazolin-3-one selected from the group consisting of 1,2-benzisothiazolin-3-one, N-(n-butyl)-1,2-benzisothiazolin-3-one, and combinations thereof; and
  - (b) at least one zinc compound selected from the group consisting of zinc salts, zinc oxides, zinc hydroxides, and combinations thereof; and
  - ~~(c) at least one polymer base medium;~~wherein said isothiazolin-3-one is present in an amount of from 1 to 500 ppm, wherein the zinc compound is present in an amount of from 5 to 200,000 ppm, and wherein the weight ratio of the isothiazolin-3-one to the zinc compound is from 1:2000 to 100:1.
2. (Previously Presented) The composition of claim 1 wherein the weight ratio of the isothiazolin-3-one to the zinc compound is from 1:100 to 100:1.
3. (Original) The composition of claim 1 wherein component (a) is present in an amount of from 5 to 500 ppm, and component (b) is present in an amount of from 5 to 500 ppm.
- 4-9. (Cancelled)
10. (Currently Amended) A functional fluid composition comprising:
  - a polymer emulsion; and
  - a wet state preservative comprising an antimicrobial composition comprising at least one isothiazolin-3-one selected from the group consisting of 1,2-benzisothiazolin-3-one, N-(n-butyl)-1,2-benzisothiazolin-3-one, and combinations thereof, and at least one zinc compound selected from the group consisting of zinc salts, zinc oxides, zinc hydroxides, and combinations thereof,wherein said wet state preservative is present in said fluid composition in a total amount from about 10 ppm to about 400 ppm, and wherein the molar ratio of the at least one isothiazolin-3-one to the at least one zinc compound is from about 4:1 and about 1:2.
- 11-14. (Cancelled)
15. (Original) The composition of claim 10 which further comprises a co-biocide selected from the group consisting of pyrithione salts, pyrithione acids, and combinations thereof, and wherein said co-biocide is present in said composition in an amount of from about 0.001 to about 1.0% w/w based on the total weight of said composition.
16. (Original) The composition of claim 15 wherein said pyrithione salts are selected from the group consisting of copper pyrithione, zinc pyrithione, sodium pyrithione, and combinations thereof.
17. (Currently Amended) A coating composition comprising:

a base medium selected from the group consisting of paints, adhesives, sealants, caulks, mineral and pigment slurries, printing inks, agricultural pesticide formulations, household coating products, personal care products, metal working fluids, and combinations thereof; and

a wet state preservative comprising an antimicrobial composition comprising at least one isothiazolin-3-one selected from the group consisting of 1,2-benzisothiazolin-3-one, N-(n-butyl)-1,2-benzisothiazolin-3-one, and combinations thereof, and at least one zinc compound selected from the group consisting of zinc salts, zinc oxides, zinc hydroxides, and combinations thereof,

wherein said wet state preservative is present in said coating composition in a total amount from about 10 ppm to about 400 ppm, and wherein the molar ratio of the at least one isothiazolin-3-one and the at least one zinc compound is from about 4:1 to about 1:2.

18. (Cancelled)

19. (Previously Presented) An antimicrobial composition comprising:

(a) at least one isothiazolin-3-one selected from the group consisting of 1,2-benzisothiazolin-3-one, N-(n-butyl)-1,2-benzisothiazolin-3-one, and combinations thereof;

(b) at least one zinc oxide; and

(c) a polymer comprising a plurality of monomers selected from a group consisting of acrylic acid, methacrylate, styrene/butadiene, ethylene vinyl acetate, polyvinyl acetate, styrene/butadiene/N-methylol acrylamide, and nitrile,

wherein said isothiazolin-3-one is present in an amount from 1 to 500 ppm, wherein the zinc oxide is present in an amount from 5 to 200,000 ppm, and wherein the weight ratio of the isothiazolin-3-one to the zinc oxide is from 1:100 to 100:1.

20. (Cancelled)

21. (Previously Presented) The composition of claim 19 wherein component (a) is present in an amount of from 5 to 500 ppm, and component (b) is present in an amount of from 5 to 500 ppm.

22-23. (Cancelled)

24. (Previously Presented) The antimicrobial composition of claim 19 which further comprises a co-biocide selected from the group consisting of pyrithione salts, pyrithione acids, and combinations thereof, and wherein said co-biocide is present in said composition in an amount of from about 0.001 to about 1% w/w based on the total weight of said composition.

25-28. (Cancelled)

29. (Previously Presented) The antimicrobial composition of claim 1, wherein the at least one zinc compound is a zinc salt.

30. (Previously Presented) The antimicrobial composition of claim 29, wherein the zinc salt is zinc chloride.

31. (Previously Presented) The antimicrobial composition of claim 1, wherein the composition further comprises a co-biocide selected from the group consisting of pyrithione salts, pyrithione acids, and combinations thereof.

32. (Currently Amended) The ~~coating~~ antimicrobial composition of claim 1, wherein the composition further comprises a polymer base medium is selected from the group consisting of acrylic and substituted (meth)acrylates, styrene/butadiene, ethylene vinyl acetate, polyvinyl acetate, styrene/butadiene/N-methylol acrylamide, nitrile and copolymers thereof.

33. (Previously Presented) The functional fluid composition of claim 10, wherein the at least one zinc compound is a zinc salt.

34. (Previously Presented) The functional fluid composition of claim 33, wherein the zinc salt is zinc chloride.

35. (Previously Presented) The coating composition of claim 17, wherein the at least one zinc compound is a zinc salt.

36. (Previously Presented) The coating composition of claim 35, wherein the zinc salt is zinc chloride.

37. (New) The antimicrobial composition of claim 1, wherein the composition further comprises at least one polymer base medium.

38. (New) The antimicrobial composition of claim 1, the composition consisting of the at least one isothiazolin-3-one, the at least one zinc compound, optionally at least one polymer base medium, and optionally a co-biocide.

### REMARKS

Favorable reconsideration and allowance of the present application in view of the foregoing amendments and following remarks are respectfully requested.

#### I. Claims

Claims 1-3, 10, 15-17, 19, 21, and 24, including independent claims 1, 10, 17, and 19, are pending in the present application. The pending claims are directed to an antimicrobial composition, a functional fluid composition, and a coating composition.

Claim 1 is directed to an antimicrobial composition comprising (a) at least one isothiazolin-3-one selected from the group consisting of 1,2-benzisothiazolin-3-one, N-(n-butyl)-1,2-benzisothiazolin-3-one, and combinations thereof and (b) at least one zinc compound selected from the group consisting of zinc salts, zinc oxides, zinc hydroxides, and combinations thereof. The isothiazolin-3-one is present in an amount of from 1 to 500 ppm. The zinc compound is present in an amount of from 5 to 200,000 ppm. The weight ratio of the isothiazolin-3-one to the zinc compound is from 1:2000 to 100:1.

Claim 10 is directed to a functional fluid composition comprising a polymer emulsion and a wet state preservative. The wet state preservative comprises an antimicrobial composition comprising at least one isothiazolin-3-one selected from the group consisting of 1,2-benzisothiazolin-3-one, N-(n-butyl)-1,2-benzisothiazolin-3-one, and combinations thereof and at least one zinc compound selected from the group consisting of zinc salts, zinc oxides, zinc hydroxides, and combinations thereof. The wet state preservative is present in the fluid composition in a total amount from about 10 ppm to about 400 ppm. The molar ratio of the at least one isothiazolin-3-one to the at least one zinc compound is from about 4:1 and about 1:2.

Claim 17 is directed to a coating composition comprising a base medium and a wet state preservative. The base medium is selected from the group consisting of paints, adhesives, sealants, caulks, mineral and pigment slurries, printing inks, agricultural pesticide formulations, household coating products, personal care products, metal working fluids, and combinations thereof. The wet state preservative comprises an antimicrobial composition comprising at least one isothiazolin-3-one selected from the group consisting of 1,2-benzisothiazolin-3-one, N-(n-butyl)-1,2-benzisothiazolin-3-one, and combinations thereof and at least one zinc compound selected from the group consisting of zinc salts, zinc oxides, zinc hydroxides, and combinations thereof. The wet state preservative is present in the coating composition in a total amount from about 10 ppm to about 400 ppm. The molar ratio of the at least one isothiazolin-3-one and the at least one zinc compound is from about 4:1 to about 1:2.

Claim 19 is directed to an antimicrobial composition comprising (a) at least one isothiazolin-3-one selected from the group consisting of 1,2-benzisothiazolin-3-one, N-(n-butyl)-1,2-benzisothiazolin-3-one, and combinations thereof, (b) at least one zinc oxide, and (c) a polymer comprising a plurality of monomers selected from a group consisting of acrylic acid, methacrylate, styrene/butadiene, ethylene vinyl acetate, polyvinyl acetate, styrene/butadiene/N-methylol acrylamide, and nitrile. The isothiazolin-3-one is present in an amount from 1 to 500 ppm. The zinc oxide is present in an amount from 5 to 200,000 ppm. The weight ratio of the isothiazolin-3-one to the zinc oxide is from 1:100 to 100:1.

In addition, new claims 37 and 38 have been added to the listing of claims. Applicant respectfully submits such claims are clearly supported by the present specification and that no new matter has been entered by way of these new claims.

## II. Rejection of Claims Under 35 U.S.C. § 103

In the Office Action, claims 1, 2, 3, 10, 17, 19, 21, and 32, including independent claims 1, 10, 17, and 19, were rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 4,299,749 to McCarthy et al. (hereinafter "McCarthy") in view of U.S. Patent No. 6,156,108 to Wachowiak, Jr. (hereinafter "Wachowiak"). In addition, claims 1, 2, 3, 10, 17, 19, 21, and 30-36, including independent claims 1, 10, 17, and 19, were rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 4,299,749 to McCarthy et al. (hereinafter "McCarthy") in view of U.S. Patent No. 3,403,119 to Sullivan et al. (hereinafter "Sullivan"). However, for the reasons set forth above, Applicant respectfully submits that McCarthy, alone or in combination with the cited references, fails to render the pending claims as obvious.

In order to establish prima facie obviousness, the prior art references must teach or suggest all of the limitations of a claimed invention. The Office Action admits that McCarthy fails to teach or suggest the use of a zinc compound, such as zinc oxide. (Office Action of October 7, 2014, Page 4). Consequently, the Office Action relies on Wachowiak for such teaching. However, Applicant respectfully submits that there is no motivation to combine the teachings and suggestions of McCarthy and Wachowiak as advanced by the Office Action, except from using Applicant's invention as a template through a hindsight reconstruction of Applicant's claims. See Ex Parte Crawford, Appeal 2006-2429, May 30, 2007. In fact, Applicant submits that a person of ordinary skill in the art having common sense at the time of the invention would not have reasonably looked to Wachowiak to solve a problem already solved by McCarthy. See Ex Parte Rinkevich, Appeal 2007-1317, May 29, 2007 (hereinafter "Rinkevich").

Applicant respectfully submits that the present case is similar to the facts presented in Rinkevich. In Rinkevich, the Examiner issued a rejection stating that an artisan, having

knowledge of Savill (primary reference), would have looked to Wu (secondary reference) to solve the purported deficiencies of Savill. Rinkevich, page 8, lines 24-27. The Examiner asserted that the problem or deficiency of Savill was "the need to avoid logging out before logging on to another session" and further asserted that Wu solves that problem. Rinkevich, page 8, line 27 – page 9, line 2. However, the Board of Patent Appeals and Interferences (hereinafter "BPAI") indicated that Savill taught a "utility that allows a system administrator to temporarily start applications . . . without having to first close all open applications and log off." Rinkevich, page 9, lines 2-7. Thus, the BPAI concluded that the problem or deficiency of Savill proffered by the Examiner was already solved by Savill. Rinkevich, page 9, lines 7-8. Consequently, the BPAI stated that "[a] factfinder should be aware, of course, of the distortion caused by hindsight bias and must be cautious of argument reliant upon *ex post* reasoning." Rinkevich, page 9, lines 8-12 (citing KSR Int'l Co. v. Teleflex Inc., 127 S. Ct. 1727, 82 USPQ2d 1385, 1397 (2007)). Thereafter, the BPAI held that "the Examiner [had] impermissibly used the instant claims as a guide or roadmap in formulating the rejection. . . [and] failed to meet the burden of presenting a prima facie case of obviousness." Rinkevich, page 9, line 20 – page 10, line 1.

Applicant respectfully submits that the BPAI decision of Rinkevich clearly applies to the facts of the rejection in view of McCarthy and Wachowiak. As indicated above, the Office Action relies on Wachowiak to cure the deficiencies of McCarthy. In doing so, the Office Action states that a person of ordinary skill in the art would have been motivated to provide the zinc oxide of Wachowiak within the polish composition of McCarthy in order to provide preservative properties. (Office Action of October 7, 2014, Page 4). However, Applicant respectfully submits that this purported problem or deficiency of McCarthy proffered in the Office Action is already solved by McCarthy.

For instance, McCarthy already recognizes that the composition disclosed therein can contain a preservative. (McCarthy, Col. 4, ll. 3-8). In particular, McCarthy asserts that the preservative can provide protection of the composition against infection and deterioration along with good storage stability (i.e., good shelf life). (McCarthy, Col. 6, l. 67-Col. 7, l. 10). Thus, not only does McCarthy recognize a potential problem, McCarthy also provides a solution to such problem.

Thus, Applicant respectfully submits, as did the BPAI in Rinkevich, that the purported problem or deficiency of McCarthy proffered by the Office Action was in fact, already solved by McCarthy. There is simply no need to rely on another reference to address the same problem. Consequently, a person of ordinary skill in the art having common sense at the time of the

invention would not have reasonably looked to Wachowiak to solve a problem already solved by McCarthy and thus the Office Action has failed to establish a prima facie case of obviousness.

Similarly, the Office Action admits that McCarthy fails to teach or suggest the use of a zinc chloride. (Office Action of October 7, 2014, Page 7). Consequently, the Office Action relies on Sullivan for such teaching. However, Applicant respectfully submits that there is no motivation to combine the teachings and suggestions of McCarthy and Sullivan as advanced by the Office Action, except from using Applicant's invention as a template through a hindsight reconstruction of Applicant's claims. See Ex Parte Crawford, Appeal 2006-2429, May 30, 2007. In fact, Applicant submits that a person of ordinary skill in the art having common sense at the time of the invention would not have reasonably looked to Sullivan to solve a problem already solved by McCarthy. See Ex Parte Rinkevich, Appeal 2007-1317, May 29, 2007 (hereinafter "Rinkevich").

Applicant respectfully submits that the BPAI decision of Rinkevich also clearly applies to the facts of the rejection in view of McCarthy and Sullivan. As indicated above, the Office Action relies on Sullivan to cure the deficiencies of McCarthy. In doing so, the Office Action states that a person of ordinary skill in the art would have been motivated to provide the zinc chloride of Sullivan as a leveling agent within the polish composition of McCarthy in order to facilitate the removal of the applied polish from the flooring. (Office Action of October 7, 2014, Page 8). However, Applicant respectfully submits that this purported problem or deficiency of McCarthy proffered in the Office Action is already solved by McCarthy.

For instance, McCarthy already recognizes those prior art compositions that were not self-stripping and those that are self-stripping (i.e., adapted to dissolve or disperse a coating agent and replace it with a fresh film of coating agent). (McCarthy, Col. 1). In this regard, one of the primary objects of McCarthy was to provide a suitable floor coating and polishing composition that was self-stripping. (McCarthy, Col. 2, ll. 3-6). To do so, McCarthy discovered a composition consisting essentially of a water-insoluble, alkali-soluble addition polymer, a fugitive plasticizer, a tributoxyethyl phosphate, tetrasodium ethylenediaminetetraacetate, an anionic or nonionic fluorocarbon surfactant, a dimethylpolysiloxane antifoaming agent, a 1,2-benzisothiazolin-3-one, an alkali-metal bicarbonate, water, ammonia, and optionally formaldehyde, caprolactam, and/or an alkali-soluble copolymer of styrene and maleic anhydride. (McCarthy, Col. 2, l. 36-Col. 3, l. 15). In particular, the nonionic or anionic fluorocarbon surfactant within the composition of McCarthy already functions as a leveling agent. (McCarthy, Col. 4, l. 33-Col. 6, l. 44). In this regard, McCarthy has already recognized a need for a self-

stripping composition and therefore solves such need by providing the aforementioned self-stripping composition already containing a leveling agent.

Thus, Applicant respectfully submits, as did the BPAI in Rinkevich, that the purported problem or deficiency of McCarthy proffered by the Office Action was in fact, already solved by McCarthy. There is simply no need to rely on another reference to address the same problem. Consequently, a person of ordinary skill in the art having common sense at the time of the invention would not have reasonably looked to Sullivan to solve a problem already solved by McCarthy and thus the Office Action has failed to establish a prima facie case of obviousness.

Moreover, independent claims 1, 10, 17, and 19 all require an antimicrobial composition wherein the composition provides antimicrobial efficacy. As is generally known in the art, antimicrobials can be agents or compositions that may kill or inhibit the growth of certain microorganisms. Nowhere do the prior art references disclose the compositions therein per se as antimicrobial compositions. In fact, McCarthy is only directed to a floor coating composition, in particular an aqueous self-stripping floor cleaning, coating and polishing composition. (McCarthy, Abstract). McCarthy criticizes compositions of the prior art that are not considered self-stripping. (McCarthy, Col. 1, ll. 18-22). In this regard, the primary focus of McCarthy is to provide a composition that is self-stripping. (McCarthy, Col. 2, ll. 4-6). Therefore, to arrive at the antimicrobial composition of the present claims, a person of ordinary skill in the art would not consider beginning with and/or modifying the floor coating and polishing composition of McCarthy.

Similarly, Wachowiak is directed to an emulsion-containing surface polish formulation for surfaces such as furniture and floors. (Wachowiak, Col. 1, ll. 15-21). Likewise, Sullivan is directed to a polish composition for a floor. (Sullivan, Col. 1, l. 31). Therefore, to arrive at the antimicrobial composition of the present claims, a person of ordinary skill in the art would not consider utilizing the teachings of Wachowiak and Sullivan.

Therefore, for the reasons set forth above, Applicant respectfully submits that McCarthy, alone or in combination with the cited references, fails to render the pending claims as obvious.

### III. Conclusion

In summary, Applicant respectfully submits that the presently pending claims are in complete condition for allowance. However, should any issues remain after consideration of this response, then Examiner Soroush is invited and encouraged to telephone the undersigned at his convenience.

Please charge any fees required by this response and credit any overpayment to Deposit Account No. 04-1403.

Respectfully submitted,

DORITY & MANNING, P.A.



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Anand K. Patel  
Reg. No. 70,705

3/12/2015

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Date

Post Office Box 1449  
Greenville, SC 29602  
Telephone: 864-271-1592  
Facsimile: 864-233-7342

# IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application of: Thompson, et al.	)	Examiner: Ali Soroush
	)	
Serial Number: 11/805,779	)	Group Art Unit: 1617
	)	
Filed: May 24, 2007	)	Customer Number: 22827
	)	
Confirmation No.: 3981	)	Deposit Account: 04-1403
	)	
Title: Isothiazolinone Biocides Enhanced by Zinc Ions	)	Docket Number: LZA-15 (P1165US01)
	)	

Commissioner for Patents  
Post Office Box 1450  
Alexandria, VA 22313-1450

Dear Sir:

The following is an Information Disclosure Statement for the captioned patent application, pursuant to 37 CFR Sections 1.56, 1.97, and 1.98.

1. ☒ Attached hereto is:

- a. ☒ A list of materials for consideration per Rule 98(a)(1): 1 page citing 8 items.
- b. ☒ A legible copy of each patent, publication, or other item listed per Rule 98(a)(2), unless not required per Rule 98 and/or as indicated on the attached list(s): 5 items
- c. ☐ For each non-English language item listed, pursuant to Rule 98(a)(3), a concise explanation of the relevance thereof as it is presently understood by the individual designated in Rule 56(c) most knowledgeable about the content of such items: \_\_\_\_\_

☐ Such explanation is provided in the Search Report from a corresponding application enclosed herewith along with any enclosed translation into English.

2. ☒ This Information Disclosure Statement is being filed [CHECK ONE]:

- a. ☒ WITHIN THREE MONTHS of the application filing date, national stage date of entry, or along with or after a request for continued examination, OR BEFORE the mailing date of a first Office Action on the merits, which ever event occurs last, WHEREFORE per Rule 97(b) NO filing fee or Rule 97(e) certificate is required.
- b. ☐ AFTER the time periods of section 2.a above, but BEFORE a Final Action, Notice of Allowance OR an action that otherwise closes prosecution, WHEREFORE PER Rule 97(c) submitted herewith is [CHECK ONE]:
  - i. ☐ Certification per Rule 97(e); OR
  - ii. ☐ Filing Fee per Rule 17(p) – large entity ..... \$ 180.00
  - iii. ☐ Filing Fee per Rule 17(p) – small entity ..... \$ 90.00
  - iv. ☐ Filing Fee per Rule 17(p) – micro entity ..... \$ 45.00

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i. ☐ Certification per Rule 97(e); AND

ii. ☐ Filing Fee per Rule 17(p) – large entity ..... \$ 180.00

iii. ☐ Filing Fee per Rule 17(p) – small entity ..... \$ 90.00

iv. ☐ Filing Fee per Rule 17(p) – micro entity ..... \$ 45.00

3. ☐ Rule 97(e) Certification; per Rule 97(e), the undersigned certifying party make the following certification statement [CHECK ONE]:

a. ☐ That each item of information contained in this Information Disclosure Statement was first cited in a communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this statement; OR

b. ☐ That no item of information contained in this Information Disclosure Statement was cited in a foreign patent office in a counterpart foreign application and to the knowledge of the undersigned after making a reasonable inquiry, was known to any individual designated in Rule 56(c) more than three months prior to the filing of this statement.

CERTIFYING PARTY (if different from bottom signature; omission here indicates that certification is being made by signer per signature below).

Name: ..... Signature: .....

Address: ..... Date: .....

4. ☒ DEPOSIT ACCOUNT AUTHORIZATION: The Commissioner is hereby authorized to charge any fee specifically authorized hereafter, or any fees in addition to the fee(s) filed, or asserted to be filed, or which should have been filed herewith or concerning any paper filed hereafter, and which may be required under Rules 16-18 (deficiency only) now or hereafter relative to this application and the resulting official document under Rule 20, or credit any overpayment, to our Account No. shown in the heading hereof for which purpose a duplicate copy of this sheet is attached. This statement does not authorize charge of the issue fee in this case.

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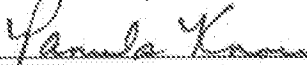
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c. ☒ Electronic Filing Certificate

I hereby certify that this correspondence and all attachments and any fee(s) are being electronically transmitted via the internet to the U.S. Patent and Trademark Office using the Electronic Filing System on March 2, 2015.

Pamela Knorr  
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(Signature of person transmitting paper or fee)

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**DORITY & MANNING, P.A.**

By: Anand K. Patel

Registration No. 70/705

Signature: 

Date: March 2, 2015

(Rev. 5/92)	Attorney Docket Number: LZA-15 (P1165US01)	Serial Number: 11/805,779
Information Disclosure Statement List By Applicant(s) Under 37 CFR Section 1.98(a) (1) (Use several sheets if necessary)	Applicant: Thompson et al.	
	Filing Date: May 24, 2007	Group Art Unit: 1617
	Confirmation No: 3981	

NOTE: If no indication is made in the column marked "COPY NOTE," the required legible copy of the corresponding item is submitted herewith; otherwise, a copy is not required and/or not submitted, for the following reason(s) [corresponding reason number is listed in "COPY NOTE" column]

- (1) This item is cumulative, per Rule 98(c)
- (2) A copy of this item was previously cited by or submitted to the U.S. Patent and Trademark Office in:  
 USSN \_\_\_\_\_, filed \_\_\_\_\_, or  
 USSN \_\_\_\_\_, filed \_\_\_\_\_; Relied on under 35 U.S.C. Section 120, per Rule 98(d)
- (3) Both reasons (1) and (2) apply
- (4) No legible complete copy is possessed, in custody of controlled, or readily available
- (5) Per the U.S. Patent and Trademark Office's waiver of Rule 98(a)(2)(i), the item is a U.S. patent or patent application publication, and the present application was filed after June 30, 2003.

U.S. PATENT DOCUMENTS											
EXAMINER INITIALS	PATENTEE NAME	PATENT NUMBER									COPY NOTE
	Miller et al.	4	1	5	0	0	2	6	04/17/1979		5

U.S. PATENT APPLICATION PUBLICATIONS											
EXAMINER INITIALS	APPLICANT'S NAME	PUBLICATION NUMBER									COPY NOTE
	Okimoto et al.	2005	0	0	6	5	2	3	2	03/24/2005	5
	Sin	2006	0	0	0	9	5	5	3	01/12/2006	5

FOREIGN PATENT DOCUMENTS								
EXAMINER INITIALS		COUNTRY	DOCUMENT NUMBER	PUBLICATION DATE	TRANSLATION			COPY NOTE
					YES	NO*	N/A	
		GB	2200846	08/17/1988			X	
		JP	H08-231317	09/10/1996	X			
		WO	2004/099308	11/18/2004			X	

\* "NO" means that no copy of an English language translation is within the possession, custody, or control of, or is readily available to any individual designated in Rule 56(c).

EXAMINER INITIALS	OTHER DOCUMENTS [Specify author (if any), Title, Pertinent Pages, Date & Place of Publication]	COPY NOTE
	Examination Report of EP07809194.9, Dated January 29, 2015.	
	Third Party Observations in EP07809194.9, Dated December 3, 2014.	

EXAMINER	DATE CONSIDERED
Examiner: initial if citation considered; whether or not citation is in conformance with MPEP 609; draw line through citation if not in conformance and not considered. Include a copy of this form with the next communication to applicant.	

## Electronic Patent Application Fee Transmittal

<b>Application Number:</b>	11805779			
<b>Filing Date:</b>	24-May-2007			
<b>Title of Invention:</b>	Isothiazolinone biocides enhanced by zinc ions			
<b>First Named Inventor/Applicant Name:</b>	Nicholas Edward Thompson			
<b>Filer:</b>	Anand Kalyanbhai Patel/Pamela Knorr			
<b>Attorney Docket Number:</b>	LZA-15			
Filed as Large Entity				
<b>Filing Fees for    Utility under 35 USC 111(a)</b>				
<b>Description</b>	<b>Fee Code</b>	<b>Quantity</b>	<b>Amount</b>	<b>Sub-Total in USD(\$)</b>
<b>Basic Filing:</b>				
<b>Pages:</b>				
<b>Claims:</b>				
<b>Miscellaneous-Filing:</b>				
<b>Petition:</b>				
<b>Patent-Appeals-and-Interference:</b>				
<b>Post-Allowance-and-Post-Issuance:</b>				
<b>Extension-of-Time:</b>				

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Extension - 2 months with \$0 paid	1252	1	600	600
<b>Miscellaneous:</b>				
RCE- 2nd and Subsequent Request	1820	1	1700	1700
<b>Total in USD (\$)</b>				<b>2300</b>

## Electronic Acknowledgement Receipt

<b>EFS ID:</b>	21639540
<b>Application Number:</b>	11805779
<b>International Application Number:</b>	
<b>Confirmation Number:</b>	3981
<b>Title of Invention:</b>	Isothiazolinone biocides enhanced by zinc ions
<b>First Named Inventor/Applicant Name:</b>	Nicholas Edward Thompson
<b>Customer Number:</b>	22827
<b>Filer:</b>	Anand Kalyanbhai Patel/Pamela Knorr
<b>Filer Authorized By:</b>	Anand Kalyanbhai Patel
<b>Attorney Docket Number:</b>	LZA-15
<b>Receipt Date:</b>	02-MAR-2015
<b>Filing Date:</b>	24-MAY-2007
<b>Time Stamp:</b>	15:19:17
<b>Application Type:</b>	Utility under 35 USC 111(a)

### Payment information:

Submitted with Payment	yes
Payment Type	Credit Card
Payment was successfully received in RAM	\$ 2300
RAM confirmation Number	2113
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The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:

File Listing:					
Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		LZA-15-RCE_Amendment030215.pdf	682751	yes	12
			fe9c12068d391e4f7730ff1556fef2265cf25c52		
	Multipart Description/PDF files in .zip description				
	Document Description		Start	End	
	Request for Continued Examination (RCE)		1	2	
	Amendment Submitted/Entered with Filing of CPA/RCE		3	3	
	Claims		4	6	
	Applicant Arguments/Remarks Made in an Amendment		7	12	
Warnings:					
Information:					
2		LZA-15-IDSLtrandList030215.pdf	251838	yes	4
			5a66d3edc6664ea649a841a6aa6161f222de93c2		
	Multipart Description/PDF files in .zip description				
	Document Description		Start	End	
	Transmittal Letter		1	3	
	Information Disclosure Statement (IDS) Form (SB08)		4	4	
Warnings:					
Information:					
3	Foreign Reference	GB2200846A.pdf	6783285	no	60
			90ed82614b082e7780c9cb80bf5e4256dccc57d00		
Warnings:					
Information:					
4	Foreign Reference	JPH08231317AwEnglTransl.pdf	718345	no	11
			5b5a9e2d80296be63abeb36c3dd12254bfcd1d1ec		
Warnings:					

<b>Information:</b>					
5	Foreign Reference	WO2004099308A1.pdf	3968855 250f6e752bee916c07fe716d286c44c2641e803d	no	31
<b>Warnings:</b>					
<b>Information:</b>					
6	Other Reference-Patent/App/Search documents	ExamRptEP078091949.pdf	192297 b8d09c0cc8f77e3e26e9ac8377c4088f12920d9a	no	6
<b>Warnings:</b>					
<b>Information:</b>					
7	Other Reference-Patent/App/Search documents	3rdPartyObservationsEP078091949.pdf	180836 12aa52d33a8ff02c4c9506265619cf0a134d81af	no	6
<b>Warnings:</b>					
<b>Information:</b>					
8	Fee Worksheet (SB06)	fee-info.pdf	32181 daa413382b5666099b52aa8e60a631194579974d	no	2
<b>Warnings:</b>					
<b>Information:</b>					
<b>Total Files Size (in bytes):</b>			12810388		
<p><b>This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.</b></p> <p><b><u>New Applications Under 35 U.S.C. 111</u></b>  <b>If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.</b></p> <p><b><u>National Stage of an International Application under 35 U.S.C. 371</u></b>  <b>If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.</b></p> <p><b><u>New International Application Filed with the USPTO as a Receiving Office</u></b>  <b>If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.</b></p>					

<b>PATENT APPLICATION FEE DETERMINATION RECORD</b> Substitute for Form PTO-875	Application or Docket Number <b>11/805,779</b>	Filing Date <b>05/24/2007</b>	<input type="checkbox"/> To be Mailed
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ENTITY: ☒ LARGE ☐ SMALL ☐ MICRO

**APPLICATION AS FILED – PART I**

(Column 1)

(Column 2)

FOR	NUMBER FILED	NUMBER EXTRA	RATE (\$)	FEE (\$)
<input type="checkbox"/> BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A	
<input type="checkbox"/> SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A	N/A	
<input type="checkbox"/> EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A	
TOTAL CLAIMS (37 CFR 1.16(i))	minus 20 =	*	X \$ =	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*	X \$ =	
<input type="checkbox"/> APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$310 (\$155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).			
<input type="checkbox"/> MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))				
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL	

**APPLICATION AS AMENDED – PART II**

(Column 1)

(Column 2)

(Column 3)

AMENDMENT	03/02/2015	CLAIMS REMAINING AFTER AMENDMENT	Minus	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE (\$)	ADDITIONAL FEE (\$)
	Total (37 CFR 1.16(i))	* 20	Minus	** 25	= 0	X \$80 =	0
	Independent (37 CFR 1.16(h))	* 4	Minus	*** 7	= 0	X \$420 =	0
	<input type="checkbox"/> Application Size Fee (37 CFR 1.16(s))						
	<input type="checkbox"/> FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))						
TOTAL ADD'L FEE						<b>0</b>	

(Column 1)

(Column 2)

(Column 3)

AMENDMENT	CLAIMS REMAINING AFTER AMENDMENT	Minus	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE (\$)	ADDITIONAL FEE (\$)
	Total (37 CFR 1.16(i))	*	Minus	**	=	X \$ =
	Independent (37 CFR 1.16(h))	*	Minus	***	=	X \$ =
	<input type="checkbox"/> Application Size Fee (37 CFR 1.16(s))					
	<input type="checkbox"/> FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))					
TOTAL ADD'L FEE						

\* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.

\*\* If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".

\*\*\* If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".

The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.

LIE  
/DESHONNE T. MARTINO/

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

(Rev. 5/92) Information Disclosure Statement List By Applicant(s) Under 37 CFR Section 1.98(a) (1) (Use several sheets if necessary)	Attorney Docket Number:	Serial Number:
	LZA-15 (P1165US01)	11/805,779
	Inventor(s): Thompson et al.	
	Filing Date: May 24, 2007	Group Art Unit:
	Confirmation No: 3981	1617

NOTE: If no indication is made in the column marked "COPY NOTE," the required legible copy of the corresponding item is submitted herewith; otherwise, a copy is not required and/or not submitted, for the following reason(s) [corresponding reason number is listed in "COPY NOTE" column]

- (1) This item is cumulative, per Rule 98(c)
- (2) A copy of this item was previously cited by or submitted to the U.S. Patent and Trademark Office in:  
     USSN \_\_\_\_\_, filed \_\_\_\_\_, or  
     USSN \_\_\_\_\_, filed \_\_\_\_\_; Relied on under 35 U.S.C. Section 120, per Rule 98(d)
- (3) Both reasons (1) and (2) apply
- (4) No legible complete copy is possessed, in custody of controlled, or readily available
- (5) Per the U.S. Patent and Trademark Office's waiver of Rule 98(a)(2)(i), the item is a U.S. patent or patent application publication, and the present application was filed after June 30, 2003.

U.S. PATENT DOCUMENTS				
EXAMINER INITIALS	PATENTEE NAME	PATENT NUMBER	ISSUE DATE	COPY NOTE

U.S. PATENT APPLICATION PUBLICATIONS				
EXAMINER INITIALS	APPLICANT'S NAME	PUBLICATION NUMBER	PUBLICATION DATE	COPY NOTE

FOREIGN PATENT DOCUMENTS							
EXAMINER INITIALS	COUNTRY	DOCUMENT NUMBER	PUBLICATION DATE	TRANSLATION			COPY NOTE
				YES	NO*	N/A	
	WO	98/36904	08/27/1998			X	

\* "NO" means that no copy of an English language translation is within the possession, custody, or control of, or is readily available to any individual designated in Rule 56(c).

EXAMINER INITIALS	OTHER DOCUMENTS [Specify author (if any), Title, Pertinent Pages, Date & Place of Publication]	COPY NOTE
	Third Party Observations for EP 07809194.9, Dated Feb. 27, 2015	
	Proxel® BZ Preservative Technical Sheet, EPA Accepted Date of April 22, 1999.	
	Proxel® BZ Preservative Technical Sheet, EPA Accepted Date of February 27, 2002.	

EXAMINER	DATE CONSIDERED
Examiner: initial if citation considered; whether or not citation is in conformance with MPEP 609; draw line through citation if not in conformance and not considered. Include a copy of this form with the next communication to applicant.	

## Electronic Acknowledgement Receipt

<b>EFS ID:</b>	21974460
<b>Application Number:</b>	11805779
<b>International Application Number:</b>	
<b>Confirmation Number:</b>	3981
<b>Title of Invention:</b>	Isothiazolinone biocides enhanced by zinc ions
<b>First Named Inventor/Applicant Name:</b>	Nicholas Edward Thompson
<b>Customer Number:</b>	22827
<b>Filer:</b>	Anand Kalyanbhai Patel/Pamela Knorr
<b>Filer Authorized By:</b>	Anand Kalyanbhai Patel
<b>Attorney Docket Number:</b>	LZA-15
<b>Receipt Date:</b>	06-APR-2015
<b>Filing Date:</b>	24-MAY-2007
<b>Time Stamp:</b>	11:37:41
<b>Application Type:</b>	Utility under 35 USC 111(a)

### Payment information:

Submitted with Payment	no
------------------------	----

### File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		LZA-15-IDSLtrandList040615.pdf	246144 a5fccac3264dc6ed080ddef978d9cb5f4ae13b55	yes	4

	Multipart Description/PDF files in .zip description				
	Document Description		Start	End	
	Transmittal Letter		1	3	
	Information Disclosure Statement (IDS) Form (SB08)		4	4	
Warnings:					
Information:					
2	Foreign Reference	WO0836904.pdf	4603361	no	36
			afeedba66172b3be0c04c6a1173dc21a84384387		
Warnings:					
Information:					
3	Non Patent Literature	ProxelBZPreservative04221999.pdf	579169	no	5
			12b88a8ca96e01af10e7d012cd4956b4c99cb0d0		
Warnings:					
Information:					
4	Non Patent Literature	ProxelBZPreservative02272002.pdf	843822	no	5
			df2902bab024bb05df2fe6453ab1b2e1768919ae		
Warnings:					
Information:					
5	Other Reference-Patent/App/Search documents	3rdPartyObservations_EP078091949.pdf	273514	no	4
			556f95ae9e1a0c559e57232f59ffe9296a0d309d		
Warnings:					
Information:					
Total Files Size (in bytes):			6546010		

**This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.**

**New Applications Under 35 U.S.C. 111**

**If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.**

**National Stage of an International Application under 35 U.S.C. 371**

**If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.**

**New International Application Filed with the USPTO as a Receiving Office**

**If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.**

# IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application of:	Thompson, et al.	)	Examiner:	Ali Soroush
Serial Number:	11/805,779	)	Group Art Unit:	1617
Filed:	May 24, 2007	)	Customer Number:	22827
Confirmation No.:	3981	)	Deposit Account:	04-1403
Title:	Isothiazolinone Biocides Enhanced By Zinc Ions	)	Docket Number:	LZA-15 (P1165US01)

Commissioner for Patents  
Post Office Box 1450  
Alexandria, VA 22313-1450

Dear Sir:

The following is an Information Disclosure Statement for the captioned patent application, pursuant to 37 CFR Sections 1.56, 1.97, and 1.98.

1. ☒ Attached hereto is:

- a. ☒ A list of materials for consideration per Rule 98(a)(1): 1 page citing 4 items.
- b. ☒ A legible copy of each patent, publication, or other item listed per Rule 98(a)(2), unless not required per Rule 98 and/or as indicated on the attached list(s): 4 items
- c. ☐ For each non-English language item listed, pursuant to Rule 98(a)(3), a concise explanation of the relevance thereof as it is presently understood by the individual designated in Rule 56(c) most knowledgeable about the content of such items: \_\_\_\_\_

☐ Such explanation is provided in the Search Report from a corresponding application enclosed herewith along with any enclosed translation into English.

2. ☒ This Information Disclosure Statement is being filed [CHECK ONE]:

- a. ☒ WITHIN THREE MONTHS of the application filing date, national stage date of entry, or along with or after a request for continued examination, OR BEFORE the mailing date of a first Office Action on the merits, which ever event occurs last, WHEREFORE per Rule 97(b) NO filing fee or Rule 97(e) certificate is required.
- b. ☐ AFTER the time periods of section 2.a above, but BEFORE a Final Action, Notice of Allowance OR an action that otherwise closes prosecution, WHEREFORE PER Rule 97(c) submitted herewith is [CHECK ONE]:
  - i. ☐ Certification per Rule 97(e); OR
  - ii. ☐ Filing Fee per Rule 17(p) – large entity ..... \$ 180.00
  - iii. ☐ Filing Fee per Rule 17(p) – small entity ..... \$ 90.00
  - iv. ☐ Filing Fee per Rule 17(p) – micro entity ..... \$ 45.00

c. ☐ AFTER a Final Action OR Notice of Allowance, but BEFORE payment of the issue fee, WHEREFORE per Rule 97(d) submitted herewith is:

i. ☐ Certification per Rule 97(e); AND

ii. ☐ Filing Fee per Rule 17(p) – large entity ..... \$ 180.00

iii. ☐ Filing Fee per Rule 17(p) – small entity ..... \$ 90.00

iv. ☐ Filing Fee per Rule 17(p) – micro entity ..... \$ 45.00

3. ☐ Rule 97(e) Certification; per Rule 97(e), the undersigned certifying party make the following certification statement [CHECK ONE]:

a. ☐ That each item of information contained in this Information Disclosure Statement was first cited in a communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this statement; OR

b. ☐ That no item of information contained in this Information Disclosure Statement was cited in a foreign patent office in a counterpart foreign application and to the knowledge of the undersigned after making a reasonable inquiry, was known to any individual designated in Rule 56(c) more than three months prior to the filing of this statement.

CERTIFYING PARTY (if different from bottom signature; omission here indicates that certification is being made by signer per signature below).

Name: .....

Signature: .....

Address: .....

Date: .....

4. ☒ DEPOSIT ACCOUNT AUTHORIZATION: The Commissioner is hereby authorized to charge any fee specifically authorized hereafter, or any fees in addition to the fee(s) filed, or asserted to be filed, or which should have been filed herewith or concerning any paper filed hereafter, and which may be required under Rules 16-18 (deficiency only) now or hereafter relative to this application and the resulting official document under Rule 20, or credit any overpayment, to our Account No. shown in the heading hereof for which purpose a duplicate copy of this sheet is attached. This statement does not authorize charge of the issue fee in this case.

5. ☒ CERTIFICATE OF FILING: This Information Disclosure Statement is being filed pursuant to [CHECK AND COMPLETE ONE]:

a. ☐ First Class Mail Certificate of Mailing under Rule 8:

I hereby certify that this correspondence and all attachments and any fee(s) are being deposited with the United States Postal Service as first class mail in an envelope addressed to Commissioner for Patents, Post Office Box 1450, Alexandria, VA 22313-1450 on .....

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(Typed/printed name of person mailing paper or fee)

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(Signature of person mailing paper or fee)

b. ☐ "Express Mail" Certificate under Rule 10:

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c. ☒ Electronic Filing Certificate

I hereby certify that this correspondence and all attachments and any fee(s) are being electronically transmitted via the internet to the U.S. Patent and Trademark Office using the Electronic Filing System on April 6, 2015.

Pamela Knorr  
(Typed/printed name of person transmitting paper or fee)

  
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By: Anand K. Patel

Registration No: 70,705

Signature: 

Date: April 6, 2015



# UNITED STATES PATENT AND TRADEMARK OFFICE

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
11/805,779	05/24/2007	Nicholas Edward Thompson	LZA-15	3981

22827 7590 07/14/2015  
DORITY & MANNING, P.A.  
POST OFFICE BOX 1449  
GREENVILLE, SC 29602-1449

EXAMINER
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SOROUGH, ALI

ART UNIT	PAPER NUMBER
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1617

MAIL DATE	DELIVERY MODE
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07/14/2015

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 11/805,779	<b>Applicant(s)</b> THOMPSON ET AL.	
	<b>Examiner</b> ALI SOROUGH	<b>Art Unit</b> 1617	<b>AIA (First Inventor to File) Status</b> No

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTHS FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 03/02/2015.  
☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on \_\_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on \_\_\_\_\_; the restriction requirement and election have been incorporated into this action.
- 4) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims\*

- 5) ☒ Claim(s) 1-3, 10, 15-17, 19, 21, 24 and 29-38 is/are pending in the application.  
5a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 6) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 7) ☒ Claim(s) 1-3, 10, 15-17, 19, 21, 24, and 29-38 is/are rejected.
- 8) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 9) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

\* If any claims have been determined allowable, you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see [http://www.uspto.gov/patents/init\\_events/pph/index.jsp](http://www.uspto.gov/patents/init_events/pph/index.jsp) or send an inquiry to [PPHfeedback@uspto.gov](mailto:PPHfeedback@uspto.gov).

### Application Papers

- 10) ☐ The specification is objected to by the Examiner.
- 11) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

#### Certified copies:

- a) ☐ All    b) ☐ Some\*\*    c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\*\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 3) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08a and/or PTO/SB/08b)<br>Paper No(s)/Mail Date <u>03022015, 04062015</u> | 4) <input type="checkbox"/> Other: _____  |

### **DETAILED ACTION**

The present application is being examined under the pre-AIA first to invent provisions.

#### ***Continued Examination Under 37 CFR 1.114***

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 03/02/2015 has been entered.

#### ***Claim Status***

Claims 1-3, 10, 15-17, 19, 21, 24, and 29-38 are pending.

Claims 4-9, 11-14, 18, 20, 22, 23 and 25-28 were previously cancelled.

Claims 1, 10, 17 and 32 are currently amended.

Claims 37 and 28 are newly added.

Claims 1-3, 10, 15-17, 19, 21, 24, and 29-38 have been examined.

Claims 1-3, 10, 15-17, 19, 21, 24, and 29-38 are rejected.

#### ***Priority***

Priority to 60/808,697 filed on 05/26/2006 is acknowledged.

***Information Disclosure Statement***

The information disclosure statements (IDSs) submitted on 03/02/2015 and 04/06/2015 are in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statements have been considered by the examiner.

***Maintained Claim Rejections – 35 USC § 103***

The following is a quotation of pre-AIA 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under pre-AIA 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under pre-AIA 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation

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under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of pre-AIA 35 U.S.C. 103(c) and potential pre-AIA 35 U.S.C. 102(e), (f) or (g) prior art under pre-AIA 35 U.S.C. 103(a).

This rejection is reiterated from the previous Office Action.

Claims 1, 2, 3, 10, 17, 19, 21, 32 and new claims 37 and 38 are rejected under pre-AIA 35 U.S.C. 103(a) as being unpatentable over McCarthy et al. (US Patent 4299749, Published 11/10/1981) in view of Wachowiak, Jr. (US Patent 6156108, Published 12/05/2000).

The claims are directed to a composition comprising 5 to 500pm isothiazolin-3-one, about 10 to 500pm zinc oxide, and a polymer emulsion base medium. The claims are further directed to the isothiazolin-3-one is 1,2-benzisothiazolin-3-one. The claims are further directed to the ratio of isothiazolin-3-one to zinc is from 4:1 to 1:2. The claims are further directed to the polymer comprise a plurality of monomers selected from acrylic acid and/or methacrylate.

McCarthy et al. teach a floor polish composition (title and abstract) comprising 155-175ppm 1,2-benzisothiazolin-3-one and a polymer emulsion comprising ethyl acrylate, butyl acrylate, methyl methacrylate and acrylic acid monomers (column 8, lines 50-68 and column 9, lines 1-18).

McCarthy et al. lacks a teaching wherein the composition comprises a zinc compound such as zinc oxide.

Wachowiak, Jr. teaches a floor polish composition (abstract and column 1, lines 15-24) which may further comprise modifiers such as preservatives and ultraviolet light inhibitors (column 2, lines 30-32). The preservative and ultraviolet light inhibitor can be selected from zinc oxide and be present in the composition in an amount of 10000-30000 ppm (column 5, lines 15-22).

It would have been prima facie obvious to one of ordinary skill in the art at the time of the instant invention to add zinc oxide to the composition of McCarthy et al. and have a reasonable expectation of success. One would have been motivated to do so in order to provide the floor polish composition of McCarthy et al. with preservative and ultraviolet light inhibitor properties. Therefore, the instant claims are rendered obvious by the teachings of the prior art.

### ***Response to Applicant's Arguments***

Applicant argues that one would not have been motivated to modify a composition to solve a problem already solved, such as adding preservative. Applicant's argument has been fully considered but found not to be persuasive. Wachowiak et al. teach that the zinc oxide is added also as an ultraviolet inhibitor therefore it is added for purpose not already solved by McCarthy et al.

Applicant also argues that the prior art does not teach or suggest an antimicrobial composition. Applicant's argument has been fully considered but found not to be persuasive. A recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is

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capable of performing the intended use, then it meets the claim. Therefore, the rejection is maintained.

This rejection is reiterated from the previous Office Action.

Claims 15, 16, and 24 rejected under pre-AIA 35 U.S.C. 103(a) as being unpatentable over McCarthy et al. (US Patent 4299749, Published 11/10/1981) in view of Wachowiak, Jr. (US Patent 6156108, Published 12/05/2000) as applied to claim 1, 2, 3, 10, 17, 19, and 21 and new claim 32 above, and further in view of Blue (US Patent 3976501, Published 08/24/1976).

The claims are further directed to the composition comprising a co-biocide such as zinc pyrithione in an amount of 0.001 to 1.0%.

The teachings of McCarthy et al. and Wachowiak, Jr. are discussed above.

McCarthy et al. lacks a teaching wherein the composition comprises a co-biocide.

Blue teaches floor polishing composition comprising 0.05 to 0.5% bacteriostatic agent zinc pyrithione (prior art claim 1).

It would have been prima facie obvious to one of ordinary skill in the art at the time of the instant invention to add zinc pyrithione to the composition of McCarthy et al. and have a reasonable expectation of success. One would have been motivated to do so in order to provide the floor polish composition of McCarthy et al. with additional bacteriostatic properties. Therefore, the instant claims are rendered obvious by the teachings of the prior art.

***Response to Applicant's Arguments***

No arguments have been present with regard to the rejection. Therefore, the rejection is maintained.

This rejection is reiterated from the previous Office Action.

Claims 1, 2, 3, 10, 17, 19, 21, 30-36 and new claims 37-38 are rejected under pre-AIA 35 U.S.C. 103(a) as being unpatentable over McCarthy et al. (US Patent 4299749, Published 11/10/1981) in view of Sullivan et al. (US Patent 3403119, Published 09/24/1968).

The claims are directed to a composition comprising 5 to 500pm isothiazolin-3-one, about 10 to 500pm zinc chloride, and a polymer emulsion base medium. The claims are further directed to the isothiazolin-3-one is 1,2-benzisothiazolin-3-one. The claims are further directed to the ratio of isothiazolin-3-one to zinc is from 4:1 to 1:2. The claims are further directed to the polymer comprise a plurality of monomers selected from acrylic acid and/or methacrylate.

McCarthy et al. teach a floor polish composition (title and abstract) comprising 155-175ppm 1,2-benzisothiazolin-3-one and a polymer emulsion comprising ethyl acrylate, butyl acrylate, methyl methacrylate and acrylic acid monomers (column 8, lines 50-68 and column 9, lines 1-18).

McCarthy et al. lacks a teaching wherein the composition comprises a zinc compound such as zinc chloride.

Sullivan et al. teach the addition of a polyvalent metal such as zinc chloride functions as a leveling agent and facilitates the removal of the applied polish from the flooring (column 19, lines 45-54). The amount of polyvalent metal in the polish is from 5 to 100 parts by weight per 100 parts by weight of polymeric component (prior art claim 3).

It would have been prima facie obvious to one of ordinary skill in the art at the time of the instant invention to add zinc chloride to the composition of McCarthy et al. and have a reasonable expectation of success. One would have been motivated to do so in order to provide the floor polish composition of McCarthy et al. with a leveling agent and the property of facilitating the removal of the applied polish from the flooring. Therefore, the instant claims are rendered obvious by the teachings of the prior art.

### ***Response to Applicant's Arguments***

Applicant argues that one would not have been motivated to modify a composition to solve a problem already solved, such as self-stripping. Applicant's argument has been fully considered but found not to be persuasive. Sullivan et al. teach that the zinc oxide is added also as a leveling agent therefore it is added for purpose not already solved by McCarthy et al.

Applicant also argues that the prior art does not teach or suggest an antimicrobial composition. Applicant's argument has been fully considered but found not to be persuasive. A recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to

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patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. Therefore, the rejection is maintained.

### ***Conclusion***

No claims are allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ALI SOROUSH whose telephone number is (571)272-9925. The examiner can normally be reached on M, W-F (9am-7:30pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Johann Richter can be reached on (571)272-0646. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1617

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/ALI SOROUSH/

Primary Examiner, Art Unit 1617

June 28, 2015

EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
S1	14532	tannic adj acid	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/25 19:49
S2	14946	(tannic adj acid) (Acidum adj tannicum) (Gallotannic adj acid) (Digallic adj acid) Gallotannin Tannimum Quercitannin (Oak adj bark adj tannin) (Quercotannic adj acid) ("Querci-tannic" adj acid) ("Querco- tannic" adj acid)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/25 19:51
S3	42037	potassium adj iodide	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/25 19:52
S4	10	S2 near3 S3	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/25 19:52
S5	90	S2 with S3	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/25 20:02
S6	0	S5 same ((ascrobic adj acid) (vitamin adj "c"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/25 20:03
S7	5	S5 and ((ascrobic adj acid) (vitamin adj "c"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/25 20:03
S8	79	S5 and ((ascrobic adj acid) (vitamin adj	US-PGPUB;	OR	ON	2011/03/25

		"c"))	USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB			20:04
S9	73	S5 same ((ascorbic adj acid) (vitamin adj "c"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/25 20:04
S10	73	S5 with ((ascorbic adj acid) (vitamin adj "c"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/25 20:04
S11	0	S5 with topical	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/25 20:08
S12	6	S5 same topical	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/25 20:08
S13	1	09/101623.app.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/27 12:37
S14	465	glycerol near3 emollient	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/27 12:43
S15	87	glycerol near emollient	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/27 12:43
S16	9	hydrogel with (xanthum adj gum)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT;	OR	ON	2011/03/27 12:49

			IBM_TDB			
S17	34184	(benzalkonium adj chloride)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/27 12:54
S18	14	S17 with octoxyglycerin	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/27 12:55
S19	11	octoxyglycerin with (synergy synergistic)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/27 12:55
S20	573	zinc with chondroitin	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/27 13:05
S21	10	S20 same anemia	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/27 13:05
S22	2	"5516510".pn.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/27 13:12
S23	0	(zinc adj oxide) with (isothiazilnone)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/27 13:19
S24	0	(isothiazilnone)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/27 13:19
S25	432	isothiazolin-3-one	US-PGPUB; USPAT; USOCR; FPRS; EPO;	OR	ON	2011/03/27 13:20

			JPO; DERWENT; IBM_TDB			
S26	4	S25 with (zinc adj oxide)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/27 13:20
S27	12	S25 same (zinc adj oxide)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/27 13:22
S28	1472	benzothiazoline	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/27 13:40
S29	161	S28 with preservative	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/27 13:41
S30	28	benzothiazoline-3-one	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/27 13:42
S31	0	S30 with preservative	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/27 13:42
S32	0	S30 with (zinc adj oxide)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/27 13:43
S33	0	S30 same (zinc adj oxide)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/27 13:43
S34	3	S30 same zinc	US-PGPUB; USPAT;	OR	ON	2011/03/27 13:43

			USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB			
S35	1994	paint with (zinc adj oxide)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/27 13:52
S36	45	(latex adj paint) with (zinc adj oxide)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/27 13:52
S37	510	(latex adj paint) with thickener	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/27 13:56
S38	367	S37 and (zinc oxide)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/27 13:56
S39	104	S37 and (zinc adj oxide)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/27 13:57
S40	2	"20060269616"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/28 10:52
S41	12	2004/0022869	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/28 11:22
S42	2	"20040022869"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/28 11:22

S43	2	"5227156".pn.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/28 12:04
S44	26	(zinc adj pyrrhione) with irritant	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/28 12:14
S45	3	(zinc adj sulfate) with dandruff	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/28 12:37
S46	156	(zinc adj sulfate) with pyrrhione	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/28 12:37
S47	1	S46 same dandruff	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/28 12:38
S48	29	(zinc adj sulfate) same dandruff	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/28 12:39
S49	950	ketoconazole with pyrrhione	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/28 12:44
S50	175	S49 with dandruff	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/28 12:44
S51	2	"5227156".pn.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO;	OR	ON	2012/01/09 18:27

			DERWENT; IBM_TDB			
S52	2	"5227156".pn.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/06/17 13:53
S53	92	(polymer near3 emulsion) with shampoo	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/06/17 14:47
S54	3103	benzothiazolin	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/06/17 14:53
S55	42	S54 with (acrylate (acrylic adj acid) methacrylate (polyvinyl adj acetate))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/06/17 14:54
S56	431	polish with zinc	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/06/17 15:02
S57	86	polish with (zinc adj oxide)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/06/17 15:33
S58	1120	(furniture adj polish)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/06/17 15:43
S59	3	S58 same (zinc adj oxide)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/06/17 15:43
S60	11	S55 same zinc	US-PGPUB; USPAT; USOCR;	OR	ON	2012/06/17 15:44

			FPRS; EPO; JPO; DERWENT; IBM_TDB			
S61	1	10/498902.app.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/06/17 15:47
S62	17342	polymer adj emulsion	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/06/17 15:52
S63	47	S62 same shampoo	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/06/17 15:53
S64	364	(polymer near3 emulsion) with zinc	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/06/17 15:54
S65	123	(polymer near3 emulsion) with (zinc adj oxide)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/06/17 15:59
S66	385	(acrylate (acrylic adj acid) methacrylate (polyvinyl adj acetate)) with shampoo	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/06/17 16:06
S67	48	(acrylate (acrylic adj acid) methacrylate (polyvinyl adj acetate)) near5 shampoo	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/06/17 16:06
S68	4251	Benzisothiazolinone "Benzisothiazolin- 3-one" Benzisothiazolone "1,2- benzisothiazol-3(2H)-one" "1,2- Benzisothiazolin-3-one"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2013/07/31 13:52
S69	87	S68 near5 zinc	US-PGPUB;	OR	ON	2013/07/31

			USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB			13:52
S70	2	"5444078".pn.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2013/07/31 14:14
S71	11	S68 near5 (zinc adj (chloride oxide))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2013/07/31 14:17
S72	59	S68 with (zinc adj (chloride oxide))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2013/07/31 15:17
S73	3	S72 same polymer	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2013/07/31 15:23
S74	77	S68 with (zinc near3 (salt hydroxide))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2013/07/31 15:25
S75	1357	(zinc adj pyrrhione) with salt	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2013/07/31 15:29
S76	508	(zinc adj pyrrhione) near3 salt	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2013/07/31 15:29
S77	2	"20050101487"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT;	OR	ON	2013/07/31 15:37

			IBM_TDB			
S78	1128	benzothiazolin\$3one	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/02/23 15:55
S79	26	S78 same paint	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/02/23 15:55
S80	71	S78 with zinc	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/02/23 15:59
S81	54	S78 with emulsion	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/02/23 16:23
S82	5	S78 near5 emulsion	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/02/23 16:23
S83	26	(acrylic near5 sheet) same (zinc adj oxide)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/02/23 16:44
S84	8	(counter adj top) same (zinc adj oxide)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/02/23 16:47
S85	20	S78 with polymer	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/02/23 16:51
S86	34	proxel with paint	US-PGPUB; USPAT; USOCR; FPRS; EPO;	OR	ON	2014/02/23 17:00

			JPO; DERWENT; IBM_TDB			
S87	90	proxel same paint	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/02/23 17:01
S88	448	proxel same acrylic	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/02/23 17:11
S89	58	(floor near3 (coating polishing)) same (zinc adj oxide)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/02/23 17:22
S90	2	(floor near3 (coating polishing)) same (pyrithione)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/02/23 18:38

6/ 28/ 2015 6:10:38 PM  
C:\ Users\ asoroush\ Documents\ EAST\ Workspaces\ 11805779.wsp

(Rev. 5/92) Information Disclosure Statement List By Applicant(s) Under 37 CFR Section 1.98(a) (1) (Use several sheets if necessary)	Attorney Docket Number:	Serial Number:
	LZA-15 (P1165US01)	11/805,779
	Inventor(s): Thompson et al.	
	Filing Date: May 24, 2007	Group Art Unit:
	Confirmation No: 3981	1617

NOTE: If no indication is made in the column marked "COPY NOTE," the required legible copy of the corresponding item is submitted herewith; otherwise, a copy is not required and/or not submitted, for the following reason(s) [corresponding reason number is listed in "COPY NOTE" column]

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- (3) Both reasons (1) and (2) apply
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U.S. PATENT DOCUMENTS				
EXAMINER INITIALS	PATENTEE NAME	PATENT NUMBER	ISSUE DATE	COPY NOTE

U.S. PATENT APPLICATION PUBLICATIONS				
EXAMINER INITIALS	APPLICANT'S NAME	PUBLICATION NUMBER	PUBLICATION DATE	COPY NOTE

FOREIGN PATENT DOCUMENTS							
EXAMINER INITIALS	COUNTRY	DOCUMENT NUMBER	PUBLICATION DATE	TRANSLATION			COPY NOTE
				YES	NO*	N/A	
/AS/	WO	98/36904	08/27/1998			X	

\* "NO" means that no copy of an English language translation is within the possession, custody, or control of, or is readily available to any individual designated in Rule 56(c).

EXAMINER INITIALS	OTHER DOCUMENTS (Specify author (if any), Title, Pertinent Pages, Date & Place of Publication)	COPY NOTE
/AS/	Third Party Observations for EP 07809194.9, Dated Feb. 27, 2015	
/AS/	Proxel® BZ Preservative Technical Sheet, EPA Accepted Date of April 22, 1999.	
/AS/	Proxel® BZ Preservative Technical Sheet, EPA Accepted Date of February 27, 2002.	

EXAMINER /ALI SOROUGH/	DATE CONSIDERED 06/28/2015
Examiner: initial if citation considered; whether or not citation is in conformance with MPEP 609; draw line through citation if not in conformance and not considered. Include a copy of this form with the next communication to applicant.	

(Rev. 5/92)	Attorney Docket Number:	Serial Number:
Information Disclosure Statement List By	LZA-15 (P1165US01)	11/805,779
Applicant(s) Under 37 CFR Section 1.98(a) (1)	Applicant: Thompson et al.	
(Use several sheets if necessary)	Filing Date: May 24, 2007	Group Art Unit:
	Confirmation No: 3981	1617

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- (1) This item is cumulative, per Rule 98(c)
- (2) A copy of this item was previously cited by or submitted to the U.S. Patent and Trademark Office in:  
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 USSN \_\_\_\_\_, filed \_\_\_\_\_; Relied on under 35 U.S.C. Section 120, per Rule 98(d)
- (3) Both reasons (1) and (2) apply
- (4) No legible complete copy is possessed, in custody of controlled, or readily available
- (5) Per the U.S. Patent and Trademark Office's waiver of Rule 98(a)(2)(i), the item is a U.S. patent or patent application publication, and the present application was filed after June 30, 2003.

U.S. PATENT DOCUMENTS										
EXAMINER INITIALS	PATENTEE NAME	PATENT NUMBER								ISSUE DATE
/AS/	Miller et al.	4	1	5	0	0	2	6		04/17/1979
										5


U.S. PATENT APPLICATION PUBLICATIONS										
EXAMINER INITIALS	APPLICANT'S NAME	PUBLICATION NUMBER								PUBLICATION DATE
/AS/	Okimoto et al.	2005	0	0	6	5	2	3	2	03/24/2005
/AS/	Sin	2006	0	0	0	9	5	5	3	01/12/2006

FOREIGN PATENT DOCUMENTS							
EXAMINER INITIALS	COUNTRY	DOCUMENT NUMBER	PUBLICATION DATE	TRANSLATION			COPY NOTE
				YES	NO*	N/A	
/AS/	GB	2200846	08/17/1988			X	
/AS/	JP	H08-231317	09/10/1996	X			
/AS/	WO	2004/099308	11/18/2004			X	

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EXAMINER INITIALS	OTHER DOCUMENTS	COPY NOTE
/AS/	[Specify author (if any), Title, Pertinent Pages, Date & Place of Publication]	
/AS/	Examination Report of EP07809194.9, Dated January 29, 2015.	
/AS/	Third Party Observations in EP07809194.9, Dated December 3, 2014.	

EXAMINER	/ALI SOROUGH/	DATE CONSIDERED
		06/28/2015
Examiner: initial if citation considered; whether or not citation is in conformance with MPEP 609; draw line through citation if not in conformance and not considered. Include a copy of this form with the next communication to applicant.		

<b>Search Notes</b>  	<b>Application/Control No.</b>  11805779	<b>Applicant(s)/Patent Under Reexamination</b>  THOMPSON ET AL.
	<b>Examiner</b>  ALI SOROUGH	<b>Art Unit</b>  1616

CPC- SEARCHED		
Symbol	Date	Examiner

CPC COMBINATION SETS - SEARCHED		
Symbol	Date	Examiner

US CLASSIFICATION SEARCHED			
Class	Subclass	Date	Examiner

SEARCH NOTES		
Search Notes	Date	Examiner
see search history printouts	06/28/2015	AS
Inventors/Assignee search PALM/EAST (Nicholas Edward Thompson, Malcom Greenhalgh, Fitzgerald Clarke, Arch Chemicals)	06/28/2015	AS

INTERFERENCE SEARCH			
US Class/ CPC Symbol	US Subclass / CPC Group	Date	Examiner

/ALI SOROUGH/  
Primary Examiner.Art Unit 1617

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Application of:	Thompson et al.	)	Examiner:	Soroush, Ali
		)		
Serial Number:	11/805,779	)	Group Art Unit:	1617
		)		
Filed:	May 24, 2007	)	Customer Number:	22827
		)		
Confirmation No.:	3981	)	Deposit Account:	04-1403
		)		
Title:	Isothiazolinone Biocides Enhanced By Zinc Ions	)	Attorney Docket No.:	LZA-15 (P1165US01)
		)		

**REQUEST FOR RECONSIDERATION**

Commissioner for Patents  
P. O. Box 1450  
Alexandria, VA 22313-1450

Dear Sir:

In response to the Office Action dated July 15, 2015, Applicant respectfully submits the following amendments and arguments.

**Amendments to the Claims** are reflected in the Listing of Claims that begins on page 2 of this Amendment.

**Remarks** begin on page 5 of this Amendment.

### LISTING OF CLAIMS

1. (Previously Presented) An antimicrobial composition comprising:
  - (a) at least one isothiazolin-3-one selected from the group consisting of 1,2-benzisothiazolin-3-one, N-(n-butyl)-1,2-benzisothiazolin-3-one, and combinations thereof; and
  - (b) at least one zinc compound selected from the group consisting of zinc salts, zinc oxides, zinc hydroxides, and combinations thereof;wherein said isothiazolin-3-one is present in an amount of from 1 to 500 ppm, wherein the zinc compound is present in an amount of from 5 to 200,000 ppm, and wherein the weight ratio of the isothiazolin-3-one to the zinc compound is from 1:2000 to 100:1.
2. (Previously Presented) The composition of claim 1 wherein the weight ratio of the isothiazolin-3-one to the zinc compound is from 1:100 to 100:1.
3. (Original) The composition of claim 1 wherein component (a) is present in an amount of from 5 to 500 ppm, and component (b) is present in an amount of from 5 to 500 ppm.
- 4-9. (Cancelled)
10. (Previously Presented) A functional fluid composition comprising:
  - a polymer emulsion; and
  - a wet state preservative comprising an antimicrobial composition comprising at least one isothiazolin-3-one selected from the group consisting of 1,2-benzisothiazolin-3-one, N-(n-butyl)-1,2-benzisothiazolin-3-one, and combinations thereof, and at least one zinc compound selected from the group consisting of zinc salts, zinc oxides, zinc hydroxides, and combinations thereof,wherein said wet state preservative is present in said fluid composition in a total amount from about 10 ppm to about 400 ppm, and wherein the molar ratio of the at least one isothiazolin-3-one to the at least one zinc compound is from about 4:1 and about 1:2.
- 11-14. (Cancelled)
15. (Original) The composition of claim 10 which further comprises a co-biocide selected from the group consisting of pyrrithione salts, pyrrithione acids, and combinations thereof, and wherein said co-biocide is present in said composition in an amount of from about 0.001 to about 1.0% w/w based on the total weight of said composition.
16. (Original) The composition of claim 15 wherein said pyrrithione salts are selected from the group consisting of copper pyrrithione, zinc pyrrithione, sodium pyrrithione, and combinations thereof.
17. (Previously Presented) A coating composition comprising:

a base medium selected from the group consisting of paints, adhesives, sealants, caulks, mineral and pigment slurries, printing inks, agricultural pesticide formulations, household coating products, personal care products, metal working fluids, and combinations thereof; and

a wet state preservative comprising an antimicrobial composition comprising at least one isothiazolin-3-one selected from the group consisting of 1,2-benzisothiazolin-3-one, N-(n-butyl)-1,2-benzisothiazolin-3-one, and combinations thereof, and at least one zinc compound selected from the group consisting of zinc salts, zinc oxides, zinc hydroxides, and combinations thereof,

wherein said wet state preservative is present in said coating composition in a total amount from about 10 ppm to about 400 ppm, and wherein the molar ratio of the at least one isothiazolin-3-one and the at least one zinc compound is from about 4:1 to about 1:2.

18. (Cancelled)

19. (Previously Presented) An antimicrobial composition comprising:

(a) at least one isothiazolin-3-one selected from the group consisting of 1,2-benzisothiazolin-3-one, N-(n-butyl)-1,2-benzisothiazolin-3-one, and combinations thereof;

(b) at least one zinc oxide; and

(c) a polymer comprising a plurality of monomers selected from a group consisting of acrylic acid, methacrylate, styrene/butadiene, ethylene vinyl acetate, polyvinyl acetate, styrene/butadiene/N-methylol acrylamide, and nitrile,

wherein said isothiazolin-3-one is present in an amount from 1 to 500 ppm, wherein the zinc oxide is present in an amount from 5 to 200,000 ppm, and wherein the weight ratio of the isothiazolin-3-one to the zinc oxide is from 1:100 to 100:1.

20. (Cancelled)

21. (Previously Presented) The composition of claim 19 wherein component (a) is present in an amount of from 5 to 500 ppm, and component (b) is present in an amount of from 5 to 500 ppm.

22-23. (Cancelled)

24. (Previously Presented) The antimicrobial composition of claim 19 which further comprises a co-biocide selected from the group consisting of pyrrhione salts, pyrrhione acids, and combinations thereof, and wherein said co-biocide is present in said composition in an amount of from about 0.001 to about 1% w/w based on the total weight of said composition.

25-28. (Cancelled)

29. (Previously Presented) The antimicrobial composition of claim 1, wherein the at least one zinc compound is a zinc salt.

30. (Previously Presented) The antimicrobial composition of claim 29, wherein the zinc salt is zinc chloride.

31. (Previously Presented) The antimicrobial composition of claim 1, wherein the composition further comprises a co-biocide selected from the group consisting of pyrrithione salts, pyrrithione acids, and combinations thereof.

32. (Previously Presented) The antimicrobial composition of claim 1, wherein the composition further comprises a polymer base medium is selected from the group consisting of acrylic and substituted (meth)acrylates, styrene/butadiene, ethylene vinyl acetate, polyvinyl acetate, styrene/butadiene/N-methylol acrylamide, nitrile and copolymers thereof.

33. (Previously Presented) The functional fluid composition of claim 10, wherein the at least one zinc compound is a zinc salt.

34. (Previously Presented) The functional fluid composition of claim 33, wherein the zinc salt is zinc chloride.

35. (Previously Presented) The coating composition of claim 17, wherein the at least one zinc compound is a zinc salt.

36. (Previously Presented) The coating composition of claim 35, wherein the zinc salt is zinc chloride.

37. (Previously Presented) The antimicrobial composition of claim 1, wherein the composition further comprises at least one polymer base medium.

38. (Previously Presented) The antimicrobial composition of claim 1, the composition consisting of the at least one isothiazolin-3-one, the at least one zinc compound, optionally at least one polymer base medium, and optionally a co-biocide.

### REMARKS

Favorable reconsideration and allowance of the present application in view of the foregoing amendments and following remarks are respectfully requested.

I. Claims

Claims 1-3, 10, 15-17, 19, 21, 24, and 29-38, including independent claims 1, 10, 17, and 19, are pending in the present application. The pending claims are directed to an antimicrobial composition, a functional fluid composition, and a coating composition.

Claim 1 is directed to an antimicrobial composition comprising (a) at least one isothiazolin-3-one selected from the group consisting of 1,2-benzisothiazolin-3-one, N-(n-butyl)-1,2-benzisothiazolin-3-one, and combinations thereof and (b) at least one zinc compound selected from the group consisting of zinc salts, zinc oxides, zinc hydroxides, and combinations thereof. The isothiazolin-3-one is present in an amount of from 1 to 500 ppm. The zinc compound is present in an amount of from 5 to 200,000 ppm. The weight ratio of the isothiazolin-3-one to the zinc compound is from 1:2000 to 100:1.

Claim 10 is directed to a functional fluid composition comprising a polymer emulsion and a wet state preservative. The wet state preservative comprises an antimicrobial composition comprising at least one isothiazolin-3-one selected from the group consisting of 1,2-benzisothiazolin-3-one, N-(n-butyl)-1,2-benzisothiazolin-3-one, and combinations thereof and at least one zinc compound selected from the group consisting of zinc salts, zinc oxides, zinc hydroxides, and combinations thereof. The wet state preservative is present in the fluid composition in a total amount from about 10 ppm to about 400 ppm. The molar ratio of the at least one isothiazolin-3-one to the at least one zinc compound is from about 4:1 and about 1:2.

Claim 17 is directed to a coating composition comprising a base medium and a wet state preservative. The base medium is selected from the group consisting of paints, adhesives, sealants, caulks, mineral and pigment slurries, printing inks, agricultural pesticide formulations, household coating products, personal care products, metal working fluids, and combinations thereof. The wet state preservative comprises an antimicrobial composition comprising at least one isothiazolin-3-one selected from the group consisting of 1,2-benzisothiazolin-3-one, N-(n-butyl)-1,2-benzisothiazolin-3-one, and combinations thereof and at least one zinc compound selected from the group consisting of zinc salts, zinc oxides, zinc hydroxides, and combinations thereof. The wet state preservative is present in the coating composition in a total amount from about 10 ppm to about 400 ppm. The molar ratio of the at least one isothiazolin-3-one and the at least one zinc compound is from about 4:1 to about 1:2.

Claim 19 is directed to an antimicrobial composition comprising (a) at least one isothiazolin-3-one selected from the group consisting of 1,2-benzisothiazolin-3-one, N-(n-butyl)-1,2-benzisothiazolin-3-one, and combinations thereof, (b) at least one zinc oxide, and (c) a polymer comprising a plurality of monomers selected from a group consisting of acrylic acid, methacrylate, styrene/butadiene, ethylene vinyl acetate, polyvinyl acetate, styrene/butadiene/N-methylol acrylamide, and nitrile. The isothiazolin-3-one is present in an amount from 1 to 500 ppm. The zinc oxide is present in an amount from 5 to 200,000 ppm. The weight ratio of the isothiazolin-3-one to the zinc oxide is from 1:100 to 100:1.

II. Rejection of Claims Under 35 U.S.C. § 103

In the Office Action, claims 1-3, 10, 17, 19, 21, 32, 37, and 38, including independent claims 1, 10, 17, and 19, were rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 4,299,749 to McCarthy et al. (hereinafter "McCarthy") in view of U.S. Patent No. 6,156,108 to Wachowiak, Jr. (hereinafter "Wachowiak"). In addition, claims 1-3, 10, 17, 19, 21, and 30-38, including independent claims 1, 10, 17, and 19, were rejected under 35 U.S.C. § 103(a) as being unpatentable over McCarthy in view of U.S. Patent No. 3,403,119 to Sullivan et al. (hereinafter "Sullivan"). However, for at least the reasons set forth above, Applicant respectfully submits that the pending claims patentably define over McCarthy, alone or in combination with the cited references.

As admitted in the Office Action, McCarthy fails to teach or suggest a zinc compound. In order to cure such deficiency, the Office Action relies on the teachings of Wachowiak and Sullivan. The Office Action asserts that it would have been obvious to one of ordinary skill in the art at the time of the invention to add the zinc compound of Wachowiak or Sullivan to the composition of McCarthy.

Applicant respectfully submits that an alleged prima facie case of obviousness can be rebutted by demonstrating that the claimed composition exhibits superior or unexpected results. In this regard, Applicant respectfully submits that the presently claimed composition exhibits superior and/or unexpected results and is therefore nonobvious.

Initially, Applicant would like to note that Example 2 of the present application demonstrates the antimicrobial activity of a composition comprising at least one isothiazolin-3-one, such as 1,2-benzisothiazolin-3-one, and a zinc compound, such as zinc chloride. Respectfully, this example alone demonstrates the synergistic behavior of the two components, as evidenced by the Fractional Inhibitory Concentration ("FIC") values in Table 3. For instance, a FIC value of less than one indicates an enhanced or synergistic effect.

Based on this example alone, Applicant respectfully submits that the presently claimed composition is nonobvious in view of the cited references.

Nonetheless, Applicant presents further experimental data to demonstrate such synergistic behavior. In particular, tests were conducted to demonstrate the Minimum Inhibitory Concentration ("MIC") and Fractional Inhibitory Concentration ("FIC") of a composition comprising at least one isothiazolin-3-one enhanced with a zinc compound, as defined in claim 1, against *Pseudomonas aeruginosa*. The efficacy of eleven compositions was determined utilizing at least one isothiazolin-3-one, such as 1,2-benzisothiazolin-3-one, and at least one zinc compound, such as zinc chloride, in weight ratios ranging from 1:100 to 100:1. The inhibitory concentrations were determined as provided in Example 2 of the present specification with the distinction in that MIC values were determined at 48 hours, instead of 24 hours.

As explained in the present specification, the MIC value is the lowest concentration of biocide that shows inhibition when used alone. The FIC value is the concentration of biocide which controls growth in a mixture divided by the MIC of that biocide. In the present experiments, MIC and FIC values were determined for both components utilized in the composition. Additionally, the sum of the FIC values was utilized to determine whether the two components display an enhanced effect when utilized together. As such, a FIC value of less than one indicates an enhanced effect while a FIC value of one or more indicates an additive or antagonistic effect.

The results of the tests are illustrated in the table below:

Compound	Weight Ratio of BIT:ZnCl <sub>2</sub>	Compared with BIT	MIC (ppm) of BIT/ZnCl <sub>2</sub> After 48 Hours Contact	Average FIC Values		
				BIT	ZnCl <sub>2</sub>	Total
BIT	-	-	50	1	0	1
ZnCl <sub>2</sub>	-	-	468.8	0	1	1
BIT:ZnCl <sub>2</sub> mixtures	100:1	Reduced concentration of ZnCl <sub>2</sub>	46.25/0.46	0.925	0.001	0.93
	75:1		47.22/0.64	0.944	0.001	0.95
	50:1		47.22/0.94	0.944	0.02	0.95
	25:1		48.61/1.94	0.972	0.004	0.98
	10:1		43.05/4.3	0.861	0.009	0.87
	1:1	Increased concentration of ZnCl <sub>2</sub>	25/25	0.5	0.053	0.55
	1:10		13.54/135.4	0.270	0.288	0.56
	1:25		9.72/243.1	0.194	0.518	0.71
	1:50		5.04/252.1	0.101	0.537	0.64
	1:75		4.0/300	0.080	0.64	0.72
	1:100		3.34/334.3	0.067	0.71	0.78

As indicated in the table above, the intrinsic activity of 1,2-benzisothiazolin-3-one is enhanced in the presence of zinc chloride. In particular, synergistic behavior with the use of at least one isothiazolin-3-one, such as 1,2-benzisothiazolin-3-one, and a zinc compound, such as zinc chloride, was observed at least in the weight ranges of from 100:1 to 1:100. For instance, after determining the MIC and FIC values, the sum of the FIC values was determined for each weight ratio. As shown above, the total FIC value for each weight ratio was less than one thereby illustrating an enhanced effect.

Applicant respectfully submits that these potentiation effects are surprising and not disclosed by any of the prior art references. Thus, Applicant respectfully submits that such synergistic behavior renders the presently claimed composition nonobvious in view of the prior art.

For at least the reasons set forth above, Applicant respectfully submits that the present claims patentably define over McCarthy, alone or in combination with the cited references. Therefore, Applicant respectfully requests withdrawal of the present rejections under 35 U.S.C. § 103.


III. Conclusion

In summary, Applicant respectfully submits that the presently pending claims are in complete condition for allowance. However, should any issues remain after consideration of this response, then Examiner Soroush is invited and encouraged to telephone the undersigned at his convenience.

Please charge any fees required by this response and credit any overpayment to Deposit Account No. 04-1403.

Respectfully submitted,

DORITY & MANNING, P.A.



Anand K. Patel  
Reg. No. 70,705

11/16/2015

Date

Post Office Box 1449  
Greenville, SC 29602  
Telephone: 864-271-1592  
Facsimile: 864-233-7342

## Electronic Patent Application Fee Transmittal

<b>Application Number:</b>	11805779			
<b>Filing Date:</b>	24-May-2007			
<b>Title of Invention:</b>	Isothiazolinone biocides enhanced by zinc ions			
<b>First Named Inventor/Applicant Name:</b>	Nicholas Edward Thompson			
<b>Filer:</b>	Anand Kalyanbhai Patel/Pamela Knorr			
<b>Attorney Docket Number:</b>	LZA-15			
Filed as Large Entity				
<b>Filing Fees for    Utility under 35 USC 111(a)</b>				
<b>Description</b>	<b>Fee Code</b>	<b>Quantity</b>	<b>Amount</b>	<b>Sub-Total in USD(\$)</b>
<b>Basic Filing:</b>				
<b>Pages:</b>				
<b>Claims:</b>				
<b>Miscellaneous-Filing:</b>				
<b>Petition:</b>				
<b>Patent-Appeals-and-Interference:</b>				
<b>Post-Allowance-and-Post-Issuance:</b>				
<b>Extension-of-Time:</b>				

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Extension - 1 month with \$0 paid	1251	1	200	200
<b>Miscellaneous:</b>				
<b>Total in USD (\$)</b>				<b>200</b>

## Electronic Acknowledgement Receipt

<b>EFS ID:</b>	24089128
<b>Application Number:</b>	11805779
<b>International Application Number:</b>	
<b>Confirmation Number:</b>	3981
<b>Title of Invention:</b>	Isothiazolinone biocides enhanced by zinc ions
<b>First Named Inventor/Applicant Name:</b>	Nicholas Edward Thompson
<b>Customer Number:</b>	22827
<b>Filer:</b>	Anand Kalyanbhai Patel/Pamela Knorr
<b>Filer Authorized By:</b>	Anand Kalyanbhai Patel
<b>Attorney Docket Number:</b>	LZA-15
<b>Receipt Date:</b>	16-NOV-2015
<b>Filing Date:</b>	24-MAY-2007
<b>Time Stamp:</b>	12:38:44
<b>Application Type:</b>	Utility under 35 USC 111(a)

### Payment information:

Submitted with Payment	yes
Payment Type	Credit Card
Payment was successfully received in RAM	\$ 200
RAM confirmation Number	11286
Deposit Account	
Authorized User	

The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:

<b>File Listing:</b>					
Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		LZA-15-Request_Reconsideration111615.pdf	538501 2f09a200aa16eef7dd2335627f02cc317a0d1e1	yes	10
	<b>Multipart Description/PDF files in .zip description</b>				
	<b>Document Description</b>		<b>Start</b>	<b>End</b>	
	Transmittal Letter		1	2	
	Amendment/Req. Reconsideration-After Non-Final Reject		3	3	
	Claims		4	6	
	Applicant Arguments/Remarks Made in an Amendment		7	10	
<b>Warnings:</b>					
<b>Information:</b>					
2	Fee Worksheet (SB06)	fee-info.pdf	30064 1bc8f92f46f7f0c3bab59464dcd7094a15d9cd0	no	2
<b>Warnings:</b>					
<b>Information:</b>					
<b>Total Files Size (in bytes):</b>			568565		
<p>This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.</p> <p><b><u>New Applications Under 35 U.S.C. 111</u></b>          If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.</p> <p><b><u>National Stage of an International Application under 35 U.S.C. 371</u></b>          If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.</p> <p><b><u>New International Application Filed with the USPTO as a Receiving Office</u></b>          If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.</p>					

# IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application of:	Thompson, et al.	)	Examiner:	Ali Soroush
		)		
Serial Number:	11/805,779	)	Group Art Unit:	1617
		)		
Filed:	May 24, 2007	)	Customer Number:	22827
		)		
Confirmation No.:	3981	)	Deposit Account:	04-1403
		)		
Title:	Isothiazolinone Biocides Enhanced by Zinc Ions	)	Docket Number:	LZA-15 (P1165US01)
		)		

## REQUEST FOR RECONSIDERATION

Commissioner for Patents  
Post Office Box 1450  
Alexandria, VA 22313-1450

Dear Sir:

This is a response in the above-identified application and includes the herewith attachment of same date and subject which is incorporated hereinto by reference and the signature below is to be treated as the signature to the attachment in absence of a signature thereto.

Fee requirements (if any) have been calculated as shown below:

	Claims remaining after amendment		Highest number previously paid for		Present Extra		Amount		Additional Fee
Total Effective									
Claims	minus	=	0	x	\$ 80	=	\$ 0.00		
Independent									
Claims	minus	=	0	x	\$ 420	=	\$ 0.00		

- ☐ 1<sup>st</sup> Request for Continued Examination (\$1200) is requested \$ 0.00
- ☐ 2<sup>nd</sup> Request for Continued Examination (\$1700) is requested \$ 0.00

- ☐ In view of the previously submitted Amendment / Response dated \_\_\_\_\_
- ☐ In view of the enclosed Amendment / Reply
- ☐ In view of the enclosed Affidavit(s) / Declaration(s)
- ☐ In view of the enclosed Information Disclosure Statement

Since Official Action set an original due date of October 14, 2015,  
**PETITION** is hereby made for an extension to cover the date this  
response is filed for which the requisite fee is enclosed (**1 month \$200;**  
2 months \$600; 3 months \$1,400; 4 months \$2,200; 5 months \$3,000

\$ 200.00

If amendment enters proper multiple dependent claim(s) into this application  
for first time, add \$780.00 (per application) \$ 0.00

Other: \_\_\_\_\_ \$ 0.00

**SUBTOTAL:** \$ 200.00

If "small entity" verified statement filed ☐ previously,  
☐ herewith, enter one-half (1/2) of subtotal and subtract - \$ 0.00

If "micro entity" verified statement filed ☐ previously,  
☐ herewith, enter three-quarters (3/4) of subtotal and subtract - \$ 0.00

Less any previous extension fee paid since above original due date. - \$ 0.00

If Terminal Disclaimer enclosed, add Rule 20(d) Official Fee (\$160.00) \$ 0.00

**TOTAL FEE ENCLOSED:** \$ 200.00

The Commissioner is hereby authorized to charge any fee specifically authorized hereafter, or any fees in addition to the fee(s) filed, or asserted to be filed, or which should have been filed herewith or concerning any paper filed hereafter, and which may be required under Rules 16-18 (deficiency only) now or hereafter relative to this application and the resulting official document under Rule 20, or credit any overpayment, to our Account No. shown in the heading hereof. This statement does not authorize charge of the issue fee in this case.

**ADDRESS:**

Post Office Box 1449  
Greenville, SC 29602 USA  
Customer ID No.: 22827  
Telephone: (864) 271-1592  
Facsimile: (864) 233-7342

**DORITY & MANNING ATTORNEYS AT LAW, P.A.**

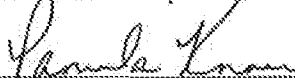
By: Anand K. Patel Reg. No.: 70,705

Signature: 

Date: November 16, 2015

I hereby certify that this correspondence and all attachments and any fee(s) are being electronically transmitted via the internet to the U.S. Patent and Trademark Office using the Electronic Patent Filing System on November 16, 2015.

Pamela Knorr  
(Typed or printed name of person transmitting documents)

  
(Signature of person transmitting documents)

<b>PATENT APPLICATION FEE DETERMINATION RECORD</b> Substitute for Form PTO-875	Application or Docket Number <b>11/805,779</b>	Filing Date <b>05/24/2007</b>	<input type="checkbox"/> To be Mailed
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ENTITY: ☒ LARGE ☐ SMALL ☐ MICRO

**APPLICATION AS FILED – PART I**

(Column 1)

(Column 2)

FOR	NUMBER FILED	NUMBER EXTRA	RATE (\$)	FEE (\$)
<input type="checkbox"/> BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A	
<input type="checkbox"/> SEARCH FEE (37 CFR 1.16(k), (l), or (m))	N/A	N/A	N/A	
<input type="checkbox"/> EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A	
TOTAL CLAIMS (37 CFR 1.16(i))	minus 20 =	*	X \$ =	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*	X \$ =	
<input type="checkbox"/> APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$310 (\$155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).			
<input type="checkbox"/> MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))				
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL	

**APPLICATION AS AMENDED – PART II**

(Column 1)

(Column 2)

(Column 3)

AMENDMENT	11/16/2015	CLAIMS REMAINING AFTER AMENDMENT	MINUS	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE (\$)	ADDITIONAL FEE (\$)
	Total (37 CFR 1.16(i))	* 20	Minus	** 25	= 0	X \$80 =	0
	Independent (37 CFR 1.16(h))	* 4	Minus	*** 7	= 0	X \$420 =	0
	<input type="checkbox"/> Application Size Fee (37 CFR 1.16(s))						
	<input type="checkbox"/> FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))						
TOTAL ADD'L FEE						<b>0</b>	

(Column 1)

(Column 2)

(Column 3)

AMENDMENT	CLAIMS REMAINING AFTER AMENDMENT	MINUS	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE (\$)	ADDITIONAL FEE (\$)
	Total (37 CFR 1.16(i))	*	Minus	**	=	X \$ =
	Independent (37 CFR 1.16(h))	*	Minus	***	=	X \$ =
	<input type="checkbox"/> Application Size Fee (37 CFR 1.16(s))					
	<input type="checkbox"/> FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))					
TOTAL ADD'L FEE						

\* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.

\*\* If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".

\*\*\* If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".

The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.

LIE  
/eugenia v. hardy/

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.



# UNITED STATES PATENT AND TRADEMARK OFFICE

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www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
11/805,779	05/24/2007	Nicholas Edward Thompson	LZA-15	3981

22827 7590 12/02/2015  
DORITY & MANNING, P.A.  
POST OFFICE BOX 1449  
GREENVILLE, SC 29602-1449

EXAMINER
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SOROUGH, ALI

ART UNIT	PAPER NUMBER
----------	--------------

1617

MAIL DATE	DELIVERY MODE
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12/02/2015

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.



### **DETAILED ACTION**

The present application is being examined under the pre-AIA first to invent provisions.

#### ***Acknowledgement of Receipt***

Applicant's response filed on 11/16/2015 to the Office Action mailed on 07/14/2015 is acknowledged.

#### ***Claim Status***

Claims 1-3, 10, 15-17, 19, 21, 24, and 29-38 are pending.

Claims 4-9, 11-14, 18, 20, 22, 23 and 25-28 were previously cancelled.

Claims 1-3, 10, 15-17, 19, 21, 24, and 29-38 have been examined.

Claims 1-3, 10, 15-17, 19, 21, 24, and 29-38 are rejected.

#### ***Priority***

Priority to 60/808,697 filed on 05/26/2006 is acknowledged.

#### ***Maintained Claim Rejections – 35 USC § 103***

The following is a quotation of pre-AIA 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under pre-AIA 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under pre-AIA 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of pre-AIA 35 U.S.C. 103(c) and potential pre-AIA 35 U.S.C. 102(e), (f) or (g) prior art under pre-AIA 35 U.S.C. 103(a).

This rejection is reiterated from the previous Office Action.

Claims 1, 2, 3, 10, 17, 19, 21, 32, 37 and 38 are rejected under pre-AIA 35 U.S.C. 103(a) as being unpatentable over McCarthy et al. (US Patent 4299749, Published 11/10/1981) in view of Wachowiak, Jr. (US Patent 6156108, Published 12/05/2000).

The claims are directed to a composition comprising 5 to 500pm isothiazolin-3-one, about 10 to 500pm zinc oxide, and a polymer emulsion base medium. The claims are further directed to the isothiazolin-3-one is 1,2-benzisothiazolin-3-one. The claims are further directed to the ratio of isothiazolin-3-one to zinc is from 4:1 to 1:2. The claims are further directed to the polymer comprise a plurality of monomers selected from acrylic acid and/or methacrylate.

McCarthy et al. teach a floor polish composition (title and abstract) comprising 155-175ppm 1,2-benzisothiazolin-3-one and a polymer emulsion comprising ethyl acrylate, butyl acrylate, methyl methacrylate and acrylic acid monomers (column 8, lines 50-68 and column 9, lines 1-18).

McCarthy et al. lacks a teaching wherein the composition comprises a zinc compound such as zinc oxide.

Wachowiak, Jr. teaches a floor polish composition (abstract and column 1, lines 15-24) which may further comprise modifiers such as preservatives and ultraviolet light inhibitors (column 2, lines 30-32). The preservative and ultraviolet light inhibitor can be selected from zinc oxide and be present in the composition in an amount of 10000-30000 ppm (column 5, lines 15-22).

It would have been prima facie obvious to one of ordinary skill in the art at the time of the instant invention to add zinc oxide to the composition of McCarthy et al. and have a reasonable expectation of success. One would have been motivated to do so in order to provide the floor polish composition of McCarthy et al. with preservative and

ultraviolet light inhibitor properties. Therefore, the instant claims are rendered obvious by the teachings of the prior art.

***Response to Applicant's Arguments***

Applicant argues that they have unexpectedly found that the combination of zinc and benzisothiazolin-3-one compounds have synergistic antimicrobial effect. Applicant's argument has been fully considered but found not to be persuasive. The unexpected data is not commensurate in scope with the instant claims. The data only shows the inhibitory effect of zinc chloride and benzisothiazolin-3-one. The instant claims 1, 10 and 17 broadly claim a combination of benzisothiazolin-3-one with zinc salts, zinc oxides, and zinc hydroxides. These zinc compounds are many and varied. It is not clear from the data presented that it would be expected that other zinc compounds would give the same synergistic effect. Instant claim 19 only recites zinc oxides but the data only shows zinc chloride. Similarly, it is not clear from the data presented that it would be expected that zinc oxides would have the same synergistic effect. Furthermore, the claims broadly recite antimicrobial activity but the data only shows its antimicrobial effect against *Pseudomonas aeruginosa*. It is not clear that the synergistic effect would be seen against all microbes. Therefore, the rejection is maintained.

This rejection is reiterated from the previous Office Action.

Claims 15, 16, and 24 rejected under pre-AIA 35 U.S.C. 103(a) as being unpatentable over McCarthy et al. (US Patent 4299749, Published 11/10/1981) in view of Wachowiak, Jr. (US Patent 6156108, Published 12/05/2000) as applied to claim 1, 2,

Art Unit: 1617

3, 10, 17, 19, and 21 and 32 above, and further in view of Blue (US Patent 3976501, Published 08/24/1976).

The claims are further directed to the composition comprising a co-biocide such as zinc pyrithione in an amount of 0.001 to 1.0%.

The teachings of McCarthy et al. and Wachowiak, Jr. are discussed above.

McCarthy et al. lacks a teaching wherein the composition comprises a co-biocide.

Blue teaches floor polishing composition comprising 0.05 to 0.5% bacteriostatic agent zinc pyrithione (prior art claim 1).

It would have been prima facie obvious to one of ordinary skill in the art at the time of the instant invention to add zinc pyrithione to the composition of McCarthy et al. and have a reasonable expectation of success. One would have been motivated to do so in order to provide the floor polish composition of McCarthy et al. with additional bacteriostatic properties. Therefore, the instant claims are rendered obvious by the teachings of the prior art.

### ***Response to Applicant's Arguments***

No arguments have been present with regard to the rejection. Therefore, the rejection is maintained.

This rejection is reiterated from the previous Office Action.

Claims 1, 2, 3, 10, 17, 19, 21, and 30-38 are rejected under pre-AIA 35 U.S.C. 103(a) as being unpatentable over McCarthy et al. (US Patent 4299749, Published 11/10/1981) in view of Sullivan et al. (US Patent 3403119, Published 09/24/1968).

The claims are directed to a composition comprising 5 to 500pm isothiazolin-3-one, about 10 to 500pm zinc chloride, and a polymer emulsion base medium. The claims are further directed to the isothiazolin-3-one is 1,2-benzisothiazolin-3-one. The claims are further directed to the ratio of isothiazolin-3-one to zinc is from 4:1 to 1:2. The claims are further directed to the polymer comprise a plurality of monomers selected from acrylic acid and/or methacrylate.

McCarthy et al. teach a floor polish composition (title and abstract) comprising 155-175ppm 1,2-benzisothiazolin-3-one and a polymer emulsion comprising ethyl acrylate, butyl acrylate, methyl methacrylate and acrylic acid monomers (column 8, lines 50-68 and column 9, lines 1-18).

McCarthy et al. lacks a teaching wherein the composition comprises a zinc compound such as zinc chloride.

Sullivan et al. teach the addition of a polyvalent metal such as zinc chloride functions as a leveling agent and facilitates the removal of the applied polish from the flooring (column 19, lines 45-54). The amount of polyvalent metal in the polish is from 5 to 100 parts by weight per 100 parts by weight of polymeric component (prior art claim 3).

It would have been prima facie obvious to one of ordinary skill in the art at the time of the instant invention to add zinc chloride to the composition of McCarthy et al.

and have a reasonable expectation of success. One would have been motivated to do so in order to provide the floor polish composition of McCarthy et al. with a leveling agent and the property of facilitating the removal of the applied polish from the flooring. Therefore, the instant claims are rendered obvious by the teachings of the prior art.

### ***Response to Applicant's Arguments***

Applicant argues that they have unexpectedly found that the combination of zinc and benzisothiazolin-3-one compounds have synergistic antimicrobial effect. Applicant's argument has been fully considered but found not to be persuasive. The unexpected data is not commensurate in scope with the instant claims. The data only shows the inhibitory effect of zinc chloride and benzisothiazolin-3-one. The instant claims 1, 10 and 17 broadly claim a combination of benzisothiazolin-3-one with zinc salts, zinc oxides, and zinc hydroxides. These zinc compounds are many and varied. It is not clear from the data presented that it would be expected that other zinc compounds would give the same synergistic effect. Instant claim 19 only recites zinc oxides but the data only shows zinc chloride. Similarly, it is not clear from the data presented that it would be expected that zinc oxides would have the same synergistic effect. Furthermore, the claims broadly recite antimicrobial activity but the data only shows its antimicrobial effect against *Pseudomonas aeruginosa*. It is not clear that the synergistic effect would be seen against all microbes. Therefore, the rejection is maintained.

***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ALI SOROUSH whose telephone number is (571)272-9925. The examiner can normally be reached on M, W-F (9am-7:30pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Johann Richter can be reached on (571)272-0646. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.


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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/ALI SORROUSH/

Primary Examiner, Art Unit 1617

November 30, 2015

<b>Search Notes</b>  	<b>Application/Control No.</b>  11805779	<b>Applicant(s)/Patent Under Reexamination</b>  THOMPSON ET AL.
	<b>Examiner</b>  ALI SOROUGH	<b>Art Unit</b>  1616

CPC- SEARCHED		
Symbol	Date	Examiner

CPC COMBINATION SETS - SEARCHED		
Symbol	Date	Examiner

US CLASSIFICATION SEARCHED			
Class	Subclass	Date	Examiner

SEARCH NOTES		
Search Notes	Date	Examiner
see search history printouts	11/30/2015	AS
Inventors/Assignee search PALM/EAST (Nicholas Edward Thompson, Malcom Greenhalgh, Fitzgerald Clarke, Arch Chemicals)	11/30/2015	AS

INTERFERENCE SEARCH			
US Class/ CPC Symbol	US Subclass / CPC Group	Date	Examiner

/ALI SOROUGH/ Primary Examiner.Art Unit 1617	
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EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
S1	14532	tannic adj acid	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/25 19:49
S2	14946	(tannic adj acid) (Acidum adj tannicum) (Gallotannic adj acid) (Digallic adj acid) Gallotannin Tannimum Quercitannin (Oak adj bark adj tannin) (Quercotannic adj acid) ("Querci-tannic" adj acid) ("Querco- tannic" adj acid)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/25 19:51
S3	42037	potassium adj iodide	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/25 19:52
S4	10	S2 near3 S3	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/25 19:52
S5	90	S2 with S3	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/25 20:02
S6	0	S5 same ((ascrobic adj acid) (vitamin adj "c"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/25 20:03
S7	5	S5 and ((ascrobic adj acid) (vitamin adj "c"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/25 20:03
S8	79	S5 and ((ascrobic adj acid) (vitamin adj	US-PGPUB;	OR	ON	2011/03/25

		"c"))	USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB			20:04
S9	73	S5 same ((ascorbic adj acid) (vitamin adj "c"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/25 20:04
S10	73	S5 with ((ascorbic adj acid) (vitamin adj "c"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/25 20:04
S11	0	S5 with topical	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/25 20:08
S12	6	S5 same topical	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/25 20:08
S13	1	09/101623.app.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/27 12:37
S14	465	glycerol near3 emollient	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/27 12:43
S15	87	glycerol near emollient	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/27 12:43
S16	9	hydrogel with (xanthum adj gum)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT;	OR	ON	2011/03/27 12:49

			IBM_TDB			
S17	34184	(benzalkonium adj chloride)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/27 12:54
S18	14	S17 with octoxyglycerin	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/27 12:55
S19	11	octoxyglycerin with (synergy synergistic)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/27 12:55
S20	573	zinc with chondroitin	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/27 13:05
S21	10	S20 same anemia	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/27 13:05
S22	2	"5516510".pn.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/27 13:12
S23	0	(zinc adj oxide) with (isothiazilnone)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/27 13:19
S24	0	(isothiazilnone)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/27 13:19
S25	432	isothiazolin-3-one	US-PGPUB; USPAT; USOCR; FPRS; EPO;	OR	ON	2011/03/27 13:20

			JPO; DERWENT; IBM_TDB			
S26	4	S25 with (zinc adj oxide)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/27 13:20
S27	12	S25 same (zinc adj oxide)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/27 13:22
S28	1472	benzothiazoline	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/27 13:40
S29	161	S28 with preservative	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/27 13:41
S30	28	benzothiazoline-3-one	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/27 13:42
S31	0	S30 with preservative	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/27 13:42
S32	0	S30 with (zinc adj oxide)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/27 13:43
S33	0	S30 same (zinc adj oxide)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/27 13:43
S34	3	S30 same zinc	US-PGPUB; USPAT;	OR	ON	2011/03/27 13:43

			USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB			
S35	1994	paint with (zinc adj oxide)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/27 13:52
S36	45	(latex adj paint) with (zinc adj oxide)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/27 13:52
S37	510	(latex adj paint) with thickener	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/27 13:56
S38	367	S37 and (zinc oxide)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/27 13:56
S39	104	S37 and (zinc adj oxide)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/27 13:57
S40	2	"20060269616"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/28 10:52
S41	12	2004/0022869	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/28 11:22
S42	2	"20040022869"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/28 11:22

S43	2	"5227156".pn.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/28 12:04
S44	26	(zinc adj pyrrhione) with irritant	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/28 12:14
S45	3	(zinc adj sulfate) with dandruff	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/28 12:37
S46	156	(zinc adj sulfate) with pyrrhione	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/28 12:37
S47	1	S46 same dandruff	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/28 12:38
S48	29	(zinc adj sulfate) same dandruff	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/28 12:39
S49	950	ketoconazole with pyrrhione	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/28 12:44
S50	175	S49 with dandruff	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/28 12:44
S51	2	"5227156".pn.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO;	OR	ON	2012/01/09 18:27

			DERWENT; IBM_TDB			
S52	2	"5227156".pn.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/06/17 13:53
S53	92	(polymer near3 emulsion) with shampoo	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/06/17 14:47
S54	3103	benzothiazolin	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/06/17 14:53
S55	42	S54 with (acrylate (acrylic adj acid) methacrylate (polyvinyl adj acetate))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/06/17 14:54
S56	431	polish with zinc	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/06/17 15:02
S57	86	polish with (zinc adj oxide)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/06/17 15:33
S58	1120	(furniture adj polish)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/06/17 15:43
S59	3	S58 same (zinc adj oxide)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/06/17 15:43
S60	11	S55 same zinc	US-PGPUB; USPAT; USOCR;	OR	ON	2012/06/17 15:44

			FPRS; EPO; JPO; DERWENT; IBM_TDB			
S61	1	10/498902.app.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/06/17 15:47
S62	17342	polymer adj emulsion	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/06/17 15:52
S63	47	S62 same shampoo	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/06/17 15:53
S64	364	(polymer near3 emulsion) with zinc	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/06/17 15:54
S65	123	(polymer near3 emulsion) with (zinc adj oxide)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/06/17 15:59
S66	385	(acrylate (acrylic adj acid) methacrylate (polyvinyl adj acetate)) with shampoo	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/06/17 16:06
S67	48	(acrylate (acrylic adj acid) methacrylate (polyvinyl adj acetate)) near5 shampoo	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/06/17 16:06
S68	4251	Benzisothiazolinone "Benzisothiazolin- 3-one" Benzisothiazolone "1,2- benzisothiazol-3(2H)-one" "1,2- Benzisothiazolin-3-one"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2013/07/31 13:52
S69	87	S68 near5 zinc	US-PGPUB;	OR	ON	2013/07/31

			USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB			13:52
S70	2	"5444078".pn.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2013/07/31 14:14
S71	11	S68 near5 (zinc adj (chloride oxide))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2013/07/31 14:17
S72	59	S68 with (zinc adj (chloride oxide))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2013/07/31 15:17
S73	3	S72 same polymer	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2013/07/31 15:23
S74	77	S68 with (zinc near3 (salt hydroxide))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2013/07/31 15:25
S75	1357	(zinc adj pyrrhione) with salt	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2013/07/31 15:29
S76	508	(zinc adj pyrrhione) near3 salt	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2013/07/31 15:29
S77	2	"20050101487"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT;	OR	ON	2013/07/31 15:37

			IBM_TDB			
S78	1128	benzothiazolin\$3one	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/02/23 15:55
S79	26	S78 same paint	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/02/23 15:55
S80	71	S78 with zinc	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/02/23 15:59
S81	54	S78 with emulsion	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/02/23 16:23
S82	5	S78 near5 emulsion	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/02/23 16:23
S83	26	(acrylic near5 sheet) same (zinc adj oxide)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/02/23 16:44
S84	8	(counter adj top) same (zinc adj oxide)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/02/23 16:47
S85	20	S78 with polymer	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/02/23 16:51
S86	34	proxel with paint	US-PGPUB; USPAT; USOCR; FPRS; EPO;	OR	ON	2014/02/23 17:00

			JPO; DERWENT; IBM_TDB			
S87	90	proxel same paint	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/02/23 17:01
S88	448	proxel same acrylic	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/02/23 17:11
S89	58	(floor near3 (coating polishing)) same (zinc adj oxide)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/02/23 17:22
S90	2	(floor near3 (coating polishing)) same (pyrithione)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/02/23 18:38

11/ 30/ 2015 12:25:44 PM  
C:\ Users\ asoroush\ Documents\ EAST\ Workspaces\ 11805779.wsp

# IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application of:	Thompson, et al.	)	Examiner:	Ali Soroush
		)		
Serial Number:	11/805,779	)	Group Art Unit:	1617
		)		
Filed:	May 24, 2007	)	Customer Number:	22827
		)		
Confirmation No.:	3981	)	Deposit Account:	04-1403
		)		
Title:	Isothiazolinone Biocides Enhanced by Zinc Ions	)	Docket Number:	LZA-15 (P1165US01)
		)		

## REQUEST FOR CONTINUED EXAMINATION AND AMENDMENT

Commissioner for Patents  
Post Office Box 1450  
Alexandria, VA 22313-1450

Dear Sir:

This is an amendment in the above-identified application and includes the herewith attachment of same date and subject which is incorporated hereinto by reference and the signature below is to be treated as the signature to the attachment in absence of a signature thereto.

Fee requirements (if any) have been calculated as shown below:

	Claims remaining after amendment		Highest number previously paid for		Present Extra		Amount		Additional Fee
Total Effective									
Claims		minus		=	0	x	\$ 80	=	\$ 0.00
Independent									
Claims		minus		=	0	x	\$ 420	=	\$ 0.00

☐ 1<sup>st</sup> Request for Continued Examination (\$1200) is requested \$ 0.00  
☒ 2<sup>nd</sup> Request for Continued Examination (\$1700) is requested \$ 1700.00

- ☐ In view of the previously submitted Amendment / Response dated \_\_\_\_\_  
☒ In view of the enclosed Amendment / Reply  
☐ In view of the enclosed Affidavit(s) / Declaration(s)  
☐ In view of the enclosed Information Disclosure Statement

Since Official Action set an original due date of March 2, 2016,  
**PETITION** is hereby made for an extension to cover the date this  
response is filed for which the requisite fee is enclosed (1 month \$200;  
**2 months \$600**; 3 months \$1,400; 4 months \$2,200; 5 months \$3,000

\$ 600.00

If amendment enters proper multiple dependent claim(s) into this application  
for first time, add \$780.00 (per application) \$ 0.00

Other: \_\_\_\_\_ \$ 0.00

**SUBTOTAL:** \$ 2300.00

If "small entity" verified statement filed ☐ previously,  
☐ herewith, enter one-half (1/2) of subtotal and subtract \$ 0.00

If "micro entity" verified statement filed ☐ previously,  
☐ herewith, enter three-quarters (3/4) of subtotal and subtract \$ 0.00

Less any previous extension fee paid since above original due date. \$ 0.00

If Terminal Disclaimer enclosed, add Rule 20(d) Official Fee (\$160.00) \$ 0.00

**TOTAL FEE ENCLOSED:** \$ 2300.00

The Commissioner is hereby authorized to charge any fee specifically authorized hereafter, or any fees in addition to the fee(s) filed, or asserted to be filed, or which should have been filed herewith or concerning any paper filed hereafter, and which may be required under Rules 16-18 (deficiency only) now or hereafter relative to this application and the resulting official document under Rule 20, or credit any overpayment, to our Account No. shown in the heading hereof. This statement does not authorize charge of the issue fee in this case.

**ADDRESS:**

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Customer ID No.: 22827  
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**DORITY & MANNING ATTORNEYS AT LAW, P.A.**

By: Anand K. Patel Reg. No.: 70,705

Signature: [Signature]

Date: May 2, 2016

I hereby certify that this correspondence and all attachments and any fee(s) are being electronically transmitted via the internet to the U.S. Patent and Trademark Office using the Electronic Patent Filing System on May 2, 2016.

Pamela Knorr  
(Typed or printed name of person transmitting documents)

[Signature]  
(Signature of person transmitting documents)

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Application of:	Thompson et al.	)	Examiner:	Sorouch, Ali
		)		
Serial Number:	11/805,779	)	Group Art Unit:	1617
		)		
Filed:	May 24, 2007	)	Customer Number:	22827
		)		
Confirmation No.:	3981	)	Deposit Account:	04-1403
		)		
Title:	Isothiazolinone Biocides Enhanced By Zinc Ions	)	Attorney Docket No.:	LZA-15 (P1165US01)
		)		

**REQUEST FOR CONTINUED EXAMINATION AND AMENDMENT**

Commissioner for Patents  
P. O. Box 1450  
Alexandria, VA 22313-1450

Dear Sir:

In response to the Office Action dated December 2, 2016, Applicant respectfully submits the following amendments and arguments.

**Amendments to the Claims** are reflected in the Listing of Claims that begins on page 2 of this Amendment.

**Remarks** begin on page 5 of this Amendment.

### LISTING OF CLAIMS

1. (Currently Amended) An antimicrobial composition comprising:
  - (a) at least one isothiazolin-3-one selected from the group consisting of 1,2-benzisothiazolin-3-one, N-(n-butyl)-1,2-benzisothiazolin-3-one, and combinations thereof; and
  - (b) at least one zinc compound selected from the group consisting of ~~zinc salts, zinc oxides, zinc hydroxides, zinc chloride, zinc sulfide, zinc carbonate, zinc oxide, zinc hydroxide,~~ and combinations thereof;wherein said isothiazolin-3-one is present in an amount of from 1 to 500 ppm, wherein the zinc compound is present in an amount of from 5 to 200,000 ppm, and wherein the weight ratio of the isothiazolin-3-one to the zinc compound is from 1:100 ~~1:2000~~ to 100:1.
2. (Cancelled)
3. (Original) The composition of claim 1 wherein component (a) is present in an amount of from 5 to 500 ppm, and component (b) is present in an amount of from 5 to 500 ppm.
- 4-9. (Cancelled)
10. (Currently Amended) A functional fluid composition comprising:
  - a polymer emulsion; and
  - a wet state preservative comprising an antimicrobial composition comprising at least one isothiazolin-3-one selected from the group consisting of 1,2-benzisothiazolin-3-one, N-(n-butyl)-1,2-benzisothiazolin-3-one, and combinations thereof, and at least one zinc compound selected from the group consisting of ~~zinc salts, zinc oxides, zinc hydroxides, zinc chloride, zinc sulfide, zinc carbonate, zinc oxide, zinc hydroxide,~~ and combinations thereof;wherein said wet state preservative is present in said fluid composition in a total amount from about 10 ppm to about 400 ppm, and wherein the molar ratio of the at least one isothiazolin-3-one to the at least one zinc compound is from about 4:1 and about 1:2.
- 11-14. (Cancelled)
15. (Original) The composition of claim 10 which further comprises a co-biocide selected from the group consisting of pyrrhione salts, pyrrhione acids, and combinations thereof, and wherein said co-biocide is present in said composition in an amount of from about 0.001 to about 1.0% w/w based on the total weight of said composition.
16. (Original) The composition of claim 15 wherein said pyrrhione salts are selected from the group consisting of copper pyrrhione, zinc pyrrhione, sodium pyrrhione, and combinations thereof.
17. (Previously Presented) A coating composition comprising:

a base medium selected from the group consisting of paints, adhesives, sealants, caulks, mineral and pigment slurries, printing inks, agricultural pesticide formulations, household coating products, personal care products, metal working fluids, and combinations thereof; and

a wet state preservative comprising an antimicrobial composition comprising at least one isothiazolin-3-one selected from the group consisting of 1,2-benzisothiazolin-3-one, N-(n-butyl)-1,2-benzisothiazolin-3-one, and combinations thereof, and at least one zinc compound selected from the group consisting of zinc salts, zinc oxides, zinc hydroxides, zinc chloride, zinc sulfide, zinc carbonate, zinc oxide, zinc hydroxide, and combinations thereof,

wherein said wet state preservative is present in said coating composition in a total amount from about 10 ppm to about 400 ppm, and wherein the molar ratio of the at least one isothiazolin-3-one and the at least one zinc compound is from about 4:1 to about 1:2.

18. (Cancelled)

19. (Currently Amended) An antimicrobial composition comprising:

(a) ~~at least one isothiazolin-3-one selected from the group consisting of 1,2-benzisothiazolin-3-one, N-(n-butyl)-1,2-benzisothiazolin-3-one, and combinations thereof;~~

(b) ~~at least one zinc oxide; and~~

(c) ~~a polymer comprising a plurality of monomers selected from a group consisting of acrylic acid, methacrylate, styrene/butadiene, ethylene vinyl acetate, polyvinyl acetate, styrene/butadiene/N-methylol acrylamide, and nitrile;~~

wherein said isothiazolin-3-one is present in an amount from 1 to 500 ppm, wherein the zinc oxide is present in an amount from 5 to 200,000 ppm, and wherein the weight ratio of the isothiazolin-3-one to the zinc oxide is from 1:100 to 100:1.

20. (Cancelled)

21. (Currently Amended) The antimicrobial composition of claim 19 wherein component (a) is present in an amount of from 5 to 500 ppm, and component (b) is present in an amount of from 5 to 500 ppm.

22-23. (Cancelled)

24. (Previously Presented) The antimicrobial composition of claim 19 which further comprises a co-biocide selected from the group consisting of pyrrhione salts, pyrrhione acids, and combinations thereof, and wherein said co-biocide is present in said composition in an amount of from about 0.001 to about 1% w/w based on the total weight of said composition.

25-28. (Cancelled)

29. (Currently Amended) The antimicrobial composition of claim 1, wherein the at least one zinc compound is [[a]] zinc oxide salt.

30. (Currently Amended) The antimicrobial composition of claim 1 [[29]], wherein the zinc compound salt is zinc chloride.

31. (Previously Presented) The antimicrobial composition of claim 1, wherein the composition further comprises a co-biocide selected from the group consisting of pyrithione salts, pyrithione acids, and combinations thereof.

32. (Cancelled)

33. (Currently Amended) The functional fluid composition of claim 10, wherein the at least one zinc compound is [[a]] zinc oxide salt.

34. (Currently Amended) The functional fluid composition of claim 10 [[33]], wherein the zinc compound salt is zinc chloride.

35. (Currently Amended) The coating composition of claim 17, wherein the at least one zinc compound is [[a]] zinc oxide salt.

36. (Currently Amended) The coating composition of claim 17 [[35]], wherein the zinc compound salt is zinc chloride.

37. (Cancelled)

38. (Previously Presented) The antimicrobial composition of claim 1, the composition consisting of the at least one isothiazolin-3-one, the at least one zinc compound, optionally at least one polymer base medium, and optionally a co-biocide.

39. (New) The antimicrobial composition of claim 19 wherein the composition further comprises zinc pyrithione.

40. (New) The antimicrobial composition of claim 1, wherein the composition comprises 1,2-benzisothiazolin-3-one and zinc chloride.

### **REMARKS**

Favorable reconsideration and allowance of the present application in view of the foregoing amendments and following remarks are respectfully requested.

I. **Claims**

Claims 1-3, 10, 15-17, 19, 21, 24, and 29-38, including independent claims 1, 10, 17, and 19, are pending in the present application. The pending claims are directed to an antimicrobial composition, a functional fluid composition, and a coating composition.

Claim 1 is directed to an antimicrobial composition comprising (a) at least one isothiazolin-3-one selected from the group consisting of 1,2-benzisothiazolin-3-one, N-(n-butyl)-1,2-benzisothiazolin-3-one, and combinations thereof and (b) at least one zinc compound selected from the group consisting of zinc chloride, zinc sulfide, zinc carbonate, zinc oxide, zinc hydroxide, and combinations thereof. The isothiazolin-3-one is present in an amount of from 1 to 500 ppm. The zinc compound is present in an amount of from 5 to 200,000 ppm. The weight ratio of the isothiazolin-3-one to the zinc compound is from 1:100 to 100:1.

Claim 10 is directed to a functional fluid composition comprising a polymer emulsion and a wet state preservative. The wet state preservative comprises an antimicrobial composition comprising at least one isothiazolin-3-one selected from the group consisting of 1,2-benzisothiazolin-3-one, N-(n-butyl)-1,2-benzisothiazolin-3-one, and combinations thereof and at least one zinc compound selected from the group consisting of zinc chloride, zinc sulfide, zinc carbonate, zinc oxide, zinc hydroxide, and combinations thereof. The wet state preservative is present in the fluid composition in a total amount from about 10 ppm to about 400 ppm. The molar ratio of the at least one isothiazolin-3-one to the at least one zinc compound is from about 4:1 and about 1:2.

Claim 17 is directed to a coating composition comprising a base medium and a wet state preservative. The base medium is selected from the group consisting of paints, adhesives, sealants, caulks, mineral and pigment slurries, printing inks, agricultural pesticide formulations, household coating products, personal care products, metal working fluids, and combinations thereof. The wet state preservative comprises an antimicrobial composition comprising at least one isothiazolin-3-one selected from the group consisting of 1,2-benzisothiazolin-3-one, N-(n-butyl)-1,2-benzisothiazolin-3-one, and combinations thereof and at least one zinc compound selected from the group consisting of consisting of zinc chloride, zinc sulfide, zinc carbonate, zinc oxide, zinc hydroxide, and combinations thereof. The wet state preservative is present in the coating composition in a total amount from about 10 ppm to about 400 ppm. The molar ratio

of the at least one isothiazolin-3-one and the at least one zinc compound is from about 4:1 to about 1:2.

Claim 19 is directed to an antimicrobial composition comprising 1,2-benzisothiazolin-3-one and zinc oxide. The isothiazolin-3-one is present in an amount from 1 to 500 ppm. The zinc oxide is present in an amount from 5 to 200,000 ppm. The weight ratio of the isothiazolin-3-one to the zinc oxide is from 1:100 to 100:1.

II. Rejection of Claims Under 35 U.S.C. § 103

In the Office Action, claims 1-3, 10, 17, 19, 21, 32, 37, and 38, including independent claims 1, 10, 17, and 19, were rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 4,299,749 to McCarthy et al. (hereinafter "McCarthy") in view of U.S. Patent No. 6,156,108 to Wachowiak, Jr. (hereinafter "Wachowiak"). In addition, claims 1-3, 10, 17, 19, 21, and 30-38, including independent claims 1, 10, 17, and 19, were rejected under 35 U.S.C. § 103(a) as being unpatentable over McCarthy in view of U.S. Patent No. 3,403,119 to Sullivan et al. (hereinafter "Sullivan"). However, for at least the reasons set forth above, Applicant respectfully submits that the pending claims patentably define over McCarthy, alone or in combination with the cited references.

As admitted in the Office Action, McCarthy fails to teach or suggest a zinc compound. In order to cure such deficiency, the Office Action relies on the teachings of Wachowiak and Sullivan. The Office Action asserts that it would have been obvious to one of ordinary skill in the art at the time of the invention to add the zinc compound of Wachowiak or Sullivan to the composition of McCarthy. However, Applicant respectfully submits that an alleged prima facie case of obviousness can be rebutted by demonstrating that the claimed composition exhibits superior or unexpected results. In this regard, Applicant respectfully submits that the presently claimed composition exhibits superior and/or unexpected results and is therefore nonobvious.

In particular, Applicant respectfully presents further experimental data to demonstrate such synergistic behavior. For instance, as indicated by the attached declarations of Scott A. Brown and Helen Hyde, experimental studies were conducted on compositions containing at least one isothiazolin-3-one, in particular 1,2-benzisothiazolin-3-one, and at least one zinc compound, in particular zinc oxide or zinc chloride.

As indicated by the declaration of Scott A. Brown, challenge testing was conducted on a composition containing at least one isothiazolin-3-one, in particular 1,2-benzisothiazolin-3-one, and at least one zinc compound, in particular zinc oxide. In the challenge testing, various bacteria were utilized. For the testing, a total of 5 challenges were conducted. After inoculating a sample with a bacterial suspension and following incubation, the TSA "streak"

plates were ranked from 0 to 5 according to the degree of microbial contamination as described below. The degree of microbial contamination was assessed after each challenge.

As indicated by the table in the attached declaration, the samples treated with both 1,2-benzisothiazolin-3-one and a zinc compound, in particular zinc oxide, exhibited unexpected results in view of those samples treated solely with 1,2-benzisothiazolin-3-one or zinc oxide. For instance, the blank control yielded TSA plates that were severely contaminated. In addition, the zinc oxide controls also yielded TSA plates that were severely contaminated after every challenge. After the 5<sup>th</sup> challenge, even the 1,2-benzisothiazolin-3-one control yielded TSA plates that were severely contaminated. Meanwhile, those samples treated with 1,2-benzisothiazolin-3-one and zinc oxide exhibited no contamination while one sample exhibited light contamination. For instance, at a 1,2-benzisothiazolin-3-one:zinc oxide concentration ratio of 60:1, the 5<sup>th</sup> challenge yielded TSA plates with light contamination. However, at the remaining concentrations, the TSA plates exhibited no contamination. (The 5<sup>th</sup> challenge for the sample having a concentration of 1,2-benzisothiazolin-3-one:zinc oxide of 60:60 had one colony likely due to an artifact from an airborne contamination). The samples employing both 1,2-benzisothiazolin-3-one and zinc oxide exhibit unexpected results as evidenced by the reduction in contamination even after a 5<sup>th</sup> challenge. Such unexpected results can be indicative of synergism between 1,2-benzisothiazolin-3-one and zinc oxide.

As indicated by the declaration of Helen Hyde<sup>1</sup>, tests were conducted to demonstrate the Minimum Inhibitory Concentration ("MIC") and Fractional Inhibitory Concentration ("FIC") of a composition comprising at least one isothiazolin-3-one, in particular 1,2-benzisothiazolin-3-one, and at least one zinc compound, in particular zinc chloride, against *Pseudomonas aeruginosa*.

As explained in the present specification, the MIC value is the lowest concentration of biocide that shows inhibition when used alone. The FIC value is the concentration of biocide which controls growth in a mixture divided by the MIC of that biocide. In the present experiments, MIC and FIC values were determined for both components utilized in the composition. Additionally, the sum of the FIC values was utilized to determine whether the two components display an enhanced effect when utilized together. As such, a FIC value of less than one indicates an enhanced effect while a FIC value of one or more indicates an additive or antagonistic effect.

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<sup>1</sup> Due to travel constraints, a signed declaration by Helen Hyde was unable to be obtained by the time of filing this amendment. In this regard, a signed declaration will soon follow this filing.

As indicated by the table in the attached declaration, the intrinsic activity of 1,2-benzisothiazolin-3-one is enhanced in the presence of zinc chloride. In particular, synergistic behavior with the use of at least one isothiazolin-3-one, in particular 1,2-benzisothiazolin-3-one, and a zinc compound, in particular zinc chloride, was observed at least in the weight ranges of from 100:1 to 1:100. For instance, after determining the MIC and FIC values, the sum of the FIC values was determined for each weight ratio. As shown in the table, the total FIC value for each weight ratio was less than one thereby illustrating an enhanced effect.

As demonstrated by the testing, the potentiation effects observed by employing at least one isothiazolin-3-one, in particular 1,2-benzisothiazolin-3-one, and at least one zinc compound, in particular zinc chloride or zinc oxide, are surprising and not disclosed by any of the prior art references. Thus, Applicant respectfully submits that such synergistic behavior renders the presently claimed composition nonobvious in view of the prior art.

For at least the reasons set forth above, Applicant respectfully submits that the present claims patentably define over McCarthy, alone or in combination with the cited references. Therefore, Applicant respectfully requests withdrawal of the present rejections under 35 U.S.C. § 103.

III. Conclusion

In summary, Applicant respectfully submits that the presently pending claims are in complete condition for allowance. However, should any issues remain after consideration of this response, then Examiner Soroush is invited and encouraged to telephone the undersigned at his convenience.

Please charge any fees required by this response and credit any overpayment to Deposit Account No. 04-1403.

Respectfully submitted,

DORITY & MANNING, P.A.



Anand K. Patel  
Reg. No. 70,705

5/2/2016

Date

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Greenville, SC 29602  
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Facsimile: 864-233-7342

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Application of:	Thompson et al.	)	Examiner:	Soroush, Ali
		)		
Serial Number:	11/805,779	)	Group Art Unit:	1617
		)		
Filed:	May 24, 2007	)	Customer Number:	22827
		)		
Confirmation No.:	3981	)	Deposit Account:	04-1403
		)		
Title:	Isothiazolinone Biocides Enhanced By Zinc Ions	)	Attorney Docket No.:	LZA-15 (P1165US01)
		)		

Commissioner of Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

**DECLARATION UNDER 37 C.F.R. § 1.132**

Dear Sir:

I, Scott A. Brown, make this Declaration under 37 C.F.R. §1.132 in support of captioned U.S. Patent Application Serial No. 11/805,779, and hereby state:

1. I hold a Bachelor of Science in Chemistry from the University of Pittsburgh.
2. I am currently employed by Lonza Inc. as a Technical Manager in the Materials Protection division.
3. I have over 25 years of experience in the development of biocide formulations and the use of such formulations in a range of industrial products.
4. I am familiar with the technology disclosed and claimed within the present application. In this regard, I possess the required expertise to provide an opinion with respect to this application.
5. I understand that the present application is being rejected under 35 U.S.C. 103(a) in view of U.S. Patent No. 4,299,749 to McCarthy et al. in view of U.S. Patent No. 6,156,108 to Wachowiak, Jr.
6. In support of the present application, I conducted challenge testing based on 1,2-benzisothiazolin-3-one ("BIT") and a zinc compound, in particular zinc oxide ("ZnO").

The challenge testing was conducted on a laboratory made standard interior acrylic paint formulation. The paint was initially prepared without any added preservatives. Aliquots of the unpreserved paint were dispensed into pre-sterilized containers. Duplicate samples with increasing concentrations of ZnO were prepared by spiking the unpreserved paint samples with increasing amounts of a ZnO dispersion. One set of the ZnO samples was left unpreserved and served as the ZnO control samples. In the second set of ZnO samples, BIT was spiked into the samples in a sufficient quantity to achieve a 60 ppm BIT concentration. Another sample ("blank control") of the unpreserved paint was left untreated and did not contain any BIT or ZnO. Another sample ("BIT control") of the unpreserved paint was not dosed with ZnO but was spiked with BIT to achieve a 60 ppm BIT.

In the challenge testing, the following bacteria were utilized:

Organism	American Type Culture Collection ("ATCC") Number
<i>Pseudomonas aeruginosa</i>	10145
<i>Enterobacter cloacae</i>	7256
<i>Escherichia coli</i>	11229
<i>Acinetobacter calcoaceticus</i>	14987

The microorganisms were adapted to grow on agar plates adjusted to a pH of 9. Lawns of the test bacteria were harvested from Trypticase Soy Agar (TSA) plates using a small amount of sterile dilution water. The resulting bacterial suspension was used as the inoculum for challenge testing. For each inoculation, the bacterial suspension was added in an amount of 3% by volume of the paint sample.

For this testing, a total of 5 challenges were conducted. In this regard, a paint sample was inoculated with the bacterial suspension. After 72 hours, the efficacy of the preservatives in controlling contamination was monitored by plating the samples on plates of TSA. TSA plates were evaluated following incubation at 30°C for 2 days. These "streak" plates were ranked from 0 to 5 according to the degree of microbial contamination as described below.

After completion of the first 72 hours and plating the sample on a TSA plate, the same paint sample was inoculated with a second challenge consisting of the bacterial

suspension. After 72 hours, the sample was plated on TSA and then incubated at 30°C for 2 days. The degree of microbial contamination was assessed. This procedure was conducted until 5 challenges were completed.

The results of the challenge testing are shown in the table below:

Ratio of BIT/ZnO	Conc. Of BIT/ZnO (ppm)	1 <sup>st</sup> Challenge	2 <sup>nd</sup> Challenge	3 <sup>rd</sup> Challenge	4 <sup>th</sup> Challenge	5 <sup>th</sup> Challenge
		72 hour	72 hour	72 hour	72 hour	72 hour
Blank	0	5	5	5	5	5
BIT only	60	0	1	0	0	5
1 : 0.17	60 : 1	0	0	0	0	2
1 : 0.5	60 : 30	0	0	0	0	0
1 : 1.0	60 : 60	0	0	0	0	1(1)*
1 : 1.5	60 : 90	0	0	0	0	0
1 : 2.0	60 : 120	0	0	0	0	0
1 : 2.6	60 : 160	0	0	0	0	0
1 : 5.0	60 : 300	0	0	0	0	0
1 : 10.0	60 : 600	0	0	0	0	0
1 : 50.0	60 : 3000	0	0	0	0	0
1 : 100.0	60 : 6000	0	0	0	0	0
ZnO only	1	5	5	5	5	5
ZnO only	30	5	5	5	5	5
ZnO only	60	5	5	5	5	5
ZnO only	90	5	5	5	5	5
ZnO only	120	5	5	5	5	5
ZnO only	160	5	5	5	5	5
ZnO only	300	5	5	5	5	5
ZnO only	600	5	5	5	5	5
ZnO only	3000	5	5	5	5	5
ZnO only	6000	5	5	5	5	5

\*Only a single colony was observed on the plate, likely an artifact from airborne contamination.

0 =	No growth	<i>Not contaminated</i>
1 =	1 - 5 viable microorganisms	<i>Very lightly contaminated</i>
2 =	6 - 15 viable microorganisms	<i>Lightly contaminated</i>
3 =	16 - 30 viable microorganisms	<i>Moderately contaminated</i>
4 =	31 - 45 viable microorganisms	<i>Heavily contaminated</i>
5 =	> 45 viable microorganisms	<i>Severely contaminated</i>

7. The results indicate that the samples treated with both BIT and a zinc compound, in particular ZnO, exhibited unexpected results in view of those samples

treated solely with BIT or ZnO. For instance, the blank control yielded TSA plates that were severely contaminated. In addition, the ZnO controls also yielded TSA plates that were severely contaminated after every challenge. After the 5<sup>th</sup> challenge, even the BIT control yielded TSA plates that were severely contaminated.

Meanwhile, those samples treated with BIT and ZnO exhibited no contamination while one sample exhibited light contamination. For instance, at a BIT:ZnO concentration ratio of 60:1, the 5<sup>th</sup> challenge yielded TSA plates with light contamination. However, at the remaining concentrations, the TSA plates exhibited no contamination. (The 5<sup>th</sup> challenge for the sample having a concentration of BIT:ZnO of 60:60 had one colony likely due to an artifact from an airborne contamination).

8. In summary, as demonstrated by the testing, BIT and ZnO, when used alone, can yield samples with severe contamination. However, when used in combination, the resulting samples exhibit unexpected results as evidenced by the reduction in contamination even after a 5<sup>th</sup> challenge. Such unexpected results can be indicative of synergism between BIT and ZnO.

9. I declare that all statements made herein of my own knowledge are true and that all statements made based on information and belief are believed to be true, and further that the statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment and may jeopardize the validity of the present application or any patent issued thereon.

Respectfully submitted,

April 28, 2016  
Date

Scott A. Brown  
Scott A. Brown

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Application of:	Thompson et al.	)	Examiner:	Soroush, Ali
		)		
Serial Number:	11/805,779	)	Group Art Unit:	1617
		)		
Filed:	May 24, 2007	)	Customer Number:	22827
		)		
Confirmation No.:	3981	)	Deposit Account:	04-1403
		)		
Title:	Isothiazolinone Biocides Enhanced By Zinc Ions	)	Attorney Docket No.:	LZA-15 (P1165US01)
		)		

Commissioner of Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

**DECLARATION UNDER 37 C.F.R. § 1.132**

Dear Sir:

I, Helen Hyde, make this Declaration under 37 C.F.R. §1.132 in support of captioned U.S. Patent Application Serial No. 11/805,779, and hereby state:

1. I hold a Bachelor of Science (Hons) in Applied Biological Sciences from Manchester Polytechnic (now Manchester Metropolitan University) in the United Kingdom.
2. I am currently employed by Lonza Inc. as a Technical Service Manager in the Materials Protection division.
3. I have over 30 years of experience in the evaluation and optimization of biocides in a range of industrial products as well as in evaluating the efficacy of biocides in a range of substrates.
4. I am familiar with the technology disclosed and claimed within the present application. In this regard, I possess the required expertise to provide an opinion with respect to this application.
5. I understand that the present application is being rejected under 35 U.S.C. 103(a) in view of U.S. Patent No. 4,299,749 to McCarthy et al. in view of U.S. Patent No. 6,156,108 to Wachowiak, Jr.
6. In support of the present application, I conducted Minimum Inhibitory Concentration ("MIC") and the Fractional Inhibition Concentration ("FIC") testing to

determine the efficacy of a composition containing 1,2-benzisothiazolin-3-one ("BIT") and a zinc compound, in particular zinc chloride ("ZnCl").

Tests were conducted to illustrate the MIC and FIC of a composition comprising BIT enhanced with ZnCl against *Pseudomonas aeruginosa*. In general, the MIC value is the lowest concentration of biocide that shows inhibition when used alone. The FIC value is the concentration of biocide which controls growth in a mixture divided by the MIC of that biocide.

The efficacy of eleven compositions was determined utilizing BIT and ZnCl at weight ratios ranging from 1:100 to 100:1. The inhibitory concentrations were determined as provided in Example 3 of the present specification with the distinction in that MIC values were determined at 48 hours, instead of 24 hours. The MIC and FIC values were determined for both components utilized in the composition. Additionally, the sum of the FIC values was utilized to determine whether the two components display an enhanced effect when utilized together. As such, a FIC value of less than one indicates an enhanced effect while a FIC value of one or more indicates an additive or antagonistic effect.

The results of the tests are illustrated in the table below:

Compound	Weight Ratio of BIT:ZnCl <sub>2</sub>	Compared with BIT	MIC (ppm) of BIT/ZnCl <sub>2</sub> After 48 Hours Contact	Average FIC Values		
				BIT	ZnCl <sub>2</sub>	Total
BIT	-	-	50	1	0	1
ZnCl <sub>2</sub>	-	-	468.8	0	1	1
BIT:ZnCl <sub>2</sub> mixtures	100:1	Reduced concentration of ZnCl <sub>2</sub>	46.25/0.46	0.925	0.001	0.93
	75:1		47.22/0.64	0.944	0.001	0.95
	50:1		47.22/0.94	0.944	0.02	0.95
	25:1		48.61/1.94	0.972	0.004	0.98
	10:1		43.05/4.3	0.861	0.009	0.87
	1:1		25/25	0.5	0.053	0.55
	1:10	Increased concentration of ZnCl <sub>2</sub>	13.54/135.4	0.270	0.288	0.56
	1:25		9.72/243.1	0.194	0.518	0.71
	1:50		5.04/252.1	0.101	0.537	0.64
	1:75		4.0/300	0.080	0.64	0.72
	1:100		3.34/334.3	0.067	0.71	0.78

7. As indicated in the table above, the intrinsic activity of BIT is enhanced in the presence of ZnCl. In particular, synergistic behavior with the use of BIT and ZnCl

was observed at least in the weight ranges of from 100:1 to 1:100. For instance, after determining the MIC and FIC values, the sum of the FIC values was determined for each weight ratio. As shown above, the total FIC value for each weight ratio was less than one thus illustrating an enhanced effect. These potentiation effects are surprising and unexpected.

8. In summary, as demonstrated by the testing, BIT and ZnCl, when used in combination, can provide an enhanced or unexpected effect when compared to using either BIT or ZnCl alone. Such unexpected effect can be indicative of synergism between BIT and ZnCl.

9. I declare that all statements made herein of my own knowledge are true and that all statements made based on information and belief are believed to be true, and further that the statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment and may jeopardize the validity of the present application or any patent issued thereon.

Respectfully submitted,

---

Date

---

Helen Hyde

## Electronic Patent Application Fee Transmittal

<b>Application Number:</b>	11805779			
<b>Filing Date:</b>	24-May-2007			
<b>Title of Invention:</b>	Isothiazolinone biocides enhanced by zinc ions			
<b>First Named Inventor/Applicant Name:</b>	Nicholas Edward Thompson			
<b>Filer:</b>	Anand Kalyanbhai Patel/Pamela Knorr			
<b>Attorney Docket Number:</b>	LZA-15			
Filed as Large Entity				
<b>Filing Fees for    Utility under 35 USC 111(a)</b>				
<b>Description</b>	<b>Fee Code</b>	<b>Quantity</b>	<b>Amount</b>	<b>Sub-Total in USD(\$)</b>
<b>Basic Filing:</b>				
<b>Pages:</b>				
<b>Claims:</b>				
<b>Miscellaneous-Filing:</b>				
<b>Petition:</b>				
<b>Patent-Appeals-and-Interference:</b>				
<b>Post-Allowance-and-Post-Issuance:</b>				
<b>Extension-of-Time:</b>				

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Extension - 2 months with \$0 paid	1252	1	600	600
<b>Miscellaneous:</b>				
RCE- 2nd and Subsequent Request	1820	1	1700	1700
<b>Total in USD (\$)</b>				<b>2300</b>

## Electronic Acknowledgement Receipt

<b>EFS ID:</b>	25659409
<b>Application Number:</b>	11805779
<b>International Application Number:</b>	
<b>Confirmation Number:</b>	3981
<b>Title of Invention:</b>	Isothiazolinone biocides enhanced by zinc ions
<b>First Named Inventor/Applicant Name:</b>	Nicholas Edward Thompson
<b>Customer Number:</b>	22827
<b>Filer:</b>	Anand Kalyanbhai Patel/Pamela Knorr
<b>Filer Authorized By:</b>	Anand Kalyanbhai Patel
<b>Attorney Docket Number:</b>	LZA-15
<b>Receipt Date:</b>	02-MAY-2016
<b>Filing Date:</b>	24-MAY-2007
<b>Time Stamp:</b>	16:59:35
<b>Application Type:</b>	Utility under 35 USC 111(a)

### Payment information:

Submitted with Payment	yes
Payment Type	Credit Card
Payment was successfully received in RAM	\$ 2300
RAM confirmation Number	18234
Deposit Account	
Authorized User	

The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:

File Listing:					
Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		LZA-15-RCE_Amendment050216.pdf	574417	yes	10
			1d28646219430737d0faf0d0db9b8e91c3905a2f		
	Multipart Description/PDF files in .zip description				
	Document Description		Start	End	
	Request for Continued Examination (RCE)		1	2	
	Amendment Submitted/Entered with Filing of CPA/RCE		3	3	
	Claims		4	6	
	Applicant Arguments/Remarks Made in an Amendment		7	10	
Warnings:					
Information:					
2	Oath or Declaration filed	Scott_A_Brown_1132Declaration.pdf	1377970	no	4
			b767651f5fb54339f11eb033e532dc738dbcd1e9a		
Warnings:					
Information:					
3	Oath or Declaration filed	Helen_Hyde_1132Declaration.pdf	117203	no	3
			77fb997552361057f7911497fed9a7cba9a97f9d		
Warnings:					
Information:					
4	Fee Worksheet (SB06)	fee-info.pdf	32181	no	2
			44799c18470a2d18a0416366da84b9ef7266ef5f		
Warnings:					
Information:					
Total Files Size (in bytes):			2101771		

**This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.**

**New Applications Under 35 U.S.C. 111**

**If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.**

**National Stage of an International Application under 35 U.S.C. 371**

**If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.**

**New International Application Filed with the USPTO as a Receiving Office**

**If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.**

<b>PATENT APPLICATION FEE DETERMINATION RECORD</b> Substitute for Form PTO-875	Application or Docket Number <b>11/805,779</b>	Filing Date <b>05/24/2007</b>	<input checked="" type="checkbox"/> To be Mailed
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ENTITY: ☒ LARGE ☐ SMALL ☐ MICRO

### APPLICATION AS FILED – PART I

(Column 1)

(Column 2)

FOR	NUMBER FILED	NUMBER EXTRA	RATE (\$)	FEE (\$)
<input type="checkbox"/> BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A	
<input type="checkbox"/> SEARCH FEE (37 CFR 1.16(k), (l), or (m))	N/A	N/A	N/A	
<input type="checkbox"/> EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A	
TOTAL CLAIMS (37 CFR 1.16(i))	minus 20 =	*	X \$ =	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*	X \$ =	
<input type="checkbox"/> APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$310 (\$155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).			
<input type="checkbox"/> MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))				
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL	

### APPLICATION AS AMENDED – PART II

(Column 1)

(Column 2)

(Column 3)

	05/02/2016	CLAIMS REMAINING AFTER AMENDMENT	MINUS	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE (\$)	ADDITIONAL FEE (\$)
AMENDMENT	Total (37 CFR 1.16(i))	* 19	Minus	** 25	= 0	X \$80 =	0
	Independent (37 CFR 1.16(h))	* 4	Minus	*** 7	= 0	X \$420 =	0
	<input type="checkbox"/> Application Size Fee (37 CFR 1.16(s))						
	<input type="checkbox"/> FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))						
	TOTAL ADD'L FEE						0

(Column 1)

(Column 2)

(Column 3)

	CLAIMS REMAINING AFTER AMENDMENT	MINUS	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE (\$)	ADDITIONAL FEE (\$)
AMENDMENT	Total (37 CFR 1.16(i))	*	Minus	**	=	X \$ =
	Independent (37 CFR 1.16(h))	*	Minus	***	=	X \$ =
	<input type="checkbox"/> Application Size Fee (37 CFR 1.16(s))					
	<input type="checkbox"/> FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))					
	TOTAL ADD'L FEE					

\* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.

\*\* If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".

\*\*\* If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".

The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.

LIE  
/ANGELA JOHNSON/

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

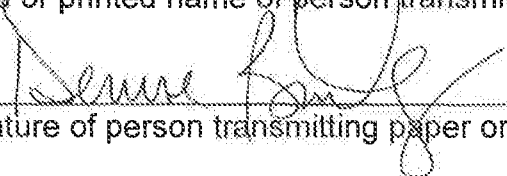
IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application of:	Thompson et al.	)	Examiner:	Soroush, Ali
		)		
Serial Number:	11/805,779	)	Group Art Unit:	1617
		)		
Filed:	May 24, 2007	)	Customer Number:	22827
		)		
Confirmation No.:	3981	)	Deposit Account:	04-1403
		)		
Title:	Isothiazolinone Biocides	)	Docket Number:	LZA-15
	Enhanced By Zinc Ions	)		(P1165US01)

CERTIFICATE OF ELECTRONIC SUBMISSION

I hereby certify that this paper and all attachments and any fee are being transmitted via the internet to the U.S. Patent and Trademark Office via the Electronic Filing System on May 5, 2016.

Denise Bulkeley  
(Typed or printed name of person transmitting paper or fee)

  
(Signature of person transmitting paper or fee)

## Electronic Acknowledgement Receipt

<b>EFS ID:</b>	25695297
<b>Application Number:</b>	11805779
<b>International Application Number:</b>	
<b>Confirmation Number:</b>	3981
<b>Title of Invention:</b>	Isothiazolinone biocides enhanced by zinc ions
<b>First Named Inventor/Applicant Name:</b>	Nicholas Edward Thompson
<b>Customer Number:</b>	22827
<b>Filer:</b>	Anand Kalyanbhai Patel/Denise Bulkeley
<b>Filer Authorized By:</b>	Anand Kalyanbhai Patel
<b>Attorney Docket Number:</b>	LZA-15
<b>Receipt Date:</b>	05-MAY-2016
<b>Filing Date:</b>	24-MAY-2007
<b>Time Stamp:</b>	14:38:47
<b>Application Type:</b>	Utility under 35 USC 111(a)

### Payment information:

Submitted with Payment	no
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### File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		helen_hyde_delcaration050516.pdf	183114 9fc2088609be38dd533317f7caac9c9551506202	yes	4

	Multipart Description/PDF files in .zip description		
	Document Description	Start	End
	Oath or Declaration filed	1	3
	Miscellaneous Incoming Letter	4	4
Warnings:			
Information:			
Total Files Size (in bytes):		183114	
<p>This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.</p> <p><b><u>New Applications Under 35 U.S.C. 111</u></b> If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.</p> <p><b><u>National Stage of an International Application under 35 U.S.C. 371</u></b> If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.</p> <p><b><u>New International Application Filed with the USPTO as a Receiving Office</u></b> If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.</p>			

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application of:	Thompson et al.	)	Examiner:	Soroush, Ali
Serial Number:	11/805,779	)	Group Art Unit:	1617
Filed:	May 24, 2007	)	Customer Number:	22827
Confirmation No.:	3981	)	Deposit Account:	04-1403
Title:	Isothiazolinone Biocides Enhanced By Zinc Ions	)	Attorney Docket No.:	LZA-15 (P1165US01)

Commissioner of Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

DECLARATION UNDER 37 C.F.R. § 1.132

Dear Sir:

I, Helen Hyde, make this Declaration under 37 C.F.R. §1.132 in support of captioned U.S. Patent Application Serial No. 11/805,779, and hereby state:

1. I hold a Bachelor of Science (Hons) in Applied Biological Sciences from Manchester Polytechnic (now Manchester Metropolitan University) in the United Kingdom.
2. I am currently employed by Lonza Inc. as a Technical Service Manager in the Materials Protection division.
3. I have over 30 years of experience in the evaluation and optimization of biocides in a range of industrial products as well as in evaluating the efficacy of biocides in a range of substrates.
4. I am familiar with the technology disclosed and claimed within the present application. In this regard, I possess the required expertise to provide an opinion with respect to this application.
5. I understand that the present application is being rejected under 35 U.S.C. 103(a) in view of U.S. Patent No. 4,299,749 to McCarthy et al. in view of U.S. Patent No. 6,156,108 to Wachowiak, Jr.
6. In support of the present application, I conducted Minimum Inhibitory

Concentration ("MIC") and the Fractional Inhibition Concentration ("FIC") testing to determine the efficacy of a composition containing 1,2-benzisothiazolin-3-one ("BIT") and a zinc compound, in particular zinc chloride ("ZnCl").

Tests were conducted to illustrate the MIC and FIC of a composition comprising BIT enhanced with ZnCl against *Pseudomonas aeruginosa*. In general, the MIC value is the lowest concentration of biocide that shows inhibition when used alone. The FIC value is the concentration of biocide which controls growth in a mixture divided by the MIC of that biocide.

The efficacy of eleven compositions was determined utilizing BIT and ZnCl at weight ratios ranging from 1:100 to 100:1. The inhibitory concentrations were determined as provided in Example 3 of the present specification with the distinction in that MIC values were determined at 48 hours, instead of 24 hours. The MIC and FIC values were determined for both components utilized in the composition. Additionally, the sum of the FIC values was utilized to determine whether the two components display an enhanced effect when utilized together. As such, a FIC value of less than one indicates an enhanced effect while a FIC value of one or more indicates an additive or antagonistic effect.

The results of the tests are illustrated in the table below:

Compound	Weight Ratio of BIT:ZnCl <sub>2</sub>	Compared with BIT	MIC (ppm) of BIT/ZnCl <sub>2</sub> After 48 Hours Contact	Average FIC Values		
				BIT	ZnCl <sub>2</sub>	Total
BIT	-	-	50	1	0	1
ZnCl <sub>2</sub>	-	-	468.8	0	1	1
BIT:ZnCl <sub>2</sub> mixtures	100:1	Reduced concentration of ZnCl <sub>2</sub>	46.25/0.46	0.925	0.001	0.93
	75:1		47.22/0.64	0.944	0.001	0.95
	50:1		47.22/0.94	0.944	0.02	0.95
	25:1		48.61/1.94	0.972	0.004	0.98
	10:1		43.05/4.3	0.861	0.009	0.87
	1:1	Increased concentration of ZnCl <sub>2</sub>	25/25	0.5	0.053	0.55
	1:10		13.54/135.4	0.270	0.288	0.56
	1:25		9.72/243.1	0.194	0.518	0.71
	1:50		5.04/252.1	0.101	0.537	0.64
	1:75		4.0/300	0.080	0.64	0.72
	1:100		3.34/334.3	0.067	0.71	0.78

7. As indicated in the table above, the intrinsic activity of BIT is enhanced in

the presence of ZnCl. In particular, synergistic behavior with the use of BIT and ZnCl was observed at least in the weight ranges of from 100:1 to 1:100. For instance, after determining the MIC and FIC values, the sum of the FIC values was determined for each weight ratio. As shown above, the total FIC value for each weight ratio was less than one thus illustrating an enhanced effect. These potentiation effects are surprising and unexpected.

8. In summary, as demonstrated by the testing, BIT and ZnCl, when used in combination, can provide an enhanced or unexpected effect when compared to using either BIT or ZnCl alone. Such unexpected effect can be indicative of synergism between BIT and ZnCl.

9. I declare that all statements made herein of my own knowledge are true and that all statements made based on information and belief are believed to be true, and further that the statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment and may jeopardize the validity of the present application or any patent issued thereon.

Respectfully submitted,

4<sup>th</sup> MAY 2016  
Date

  
Helen Hyde



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
11/805,779	05/24/2007	Nicholas Edward Thompson	LZA-15	3981

22827 7590 05/31/2016  
DORITY & MANNING, P.A.  
POST OFFICE BOX 1449  
GREENVILLE, SC 29602-1449

EXAMINER
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SOROUGH, ALI

ART UNIT	PAPER NUMBER
----------	--------------

1617

MAIL DATE	DELIVERY MODE
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05/31/2016

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 11/805,779	<b>Applicant(s)</b> THOMPSON ET AL.	
	<b>Examiner</b> ALI SOROUGH	<b>Art Unit</b> 1617	<b>AIA (First Inventor to File) Status</b> No

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTHS FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
  - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
  - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 05/02/2016.  
☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on \_\_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on \_\_\_\_\_; the restriction requirement and election have been incorporated into this action.
- 4) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims\*

- 5) ☒ Claim(s) 1,3,10,15-17,19,21,24,29-31,33-36 and 38-40 is/are pending in the application.  
5a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 6) ☒ Claim(s) 19,21 and 24 is/are allowed.
- 7) ☒ Claim(s) 1,3,10,15-17,30,31,34,36,38 and 40 is/are rejected.
- 8) ☒ Claim(s) 29,33,35 and 39 is/are objected to.
- 9) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

\* If any claims have been determined allowable, you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see [http://www.uspto.gov/patents/init\\_events/pph/index.jsp](http://www.uspto.gov/patents/init_events/pph/index.jsp) or send an inquiry to [PPHfeedback@uspto.gov](mailto:PPHfeedback@uspto.gov).

### Application Papers

- 10) ☐ The specification is objected to by the Examiner.
- 11) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

#### Certified copies:

- a) ☐ All    b) ☐ Some\*\*    c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\*\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Information Disclosure Statement(s) (PTO/SB/08a and/or PTO/SB/08b)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 3) ☒ Interview Summary (PTO-413)  
Paper No(s)/Mail Date 05272016.
- 4) ☐ Other: \_\_\_\_\_.

### **DETAILED ACTION**

The present application is being examined under the pre-AIA first to invent provisions.

#### ***Continued Examination Under 37 CFR 1.114***

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 05/02/2016 has been entered.

#### ***Claim Status***

Claims 1, 3, 10, 15-17, 19, 21, 24, 29-31, 33-36, and 38-40 are pending.

Claims 2, 32, and 37 are cancelled and claims 4-9, 11-14, 18, 20, 22, 23, and 25-28 were previously cancelled.

Claims 1, 10, 19, 29, 30, and 34-36 are currently amended.

Claims 1, 3, 10, 15-17, 19, 21, 24, 29-31, 33-36, and 38-40 have been examined.

Claims 1, 3, 10, 15-17, 30, 31, 34, 36, 38, and 40 are rejected.

Claims 29, 33, 35, and 39 are objected to.

Claims 19, 21, and 24 are allowed.

#### ***Withdrawn and Maintained Claim Rejections – 35 USC § 103***

The following is a quotation of pre-AIA 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

Art Unit: 1617

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under pre-AIA 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under pre-AIA 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of pre-AIA 35 U.S.C. 103(c) and potential pre-AIA 35 U.S.C. 102(e), (f) or (g) prior art under pre-AIA 35 U.S.C. 103(a).

***Response to Applicant's Arguments***

The rejection of claims 2, 32, and 37 under pre-AIA 35 U.S.C. 103(a) as being unpatentable over McCarthy et al. (US Patent 4299749, Published 11/10/1981) in view of Wachowiak, Jr. (US Patent 6156108, Published 12/05/2000) is moot since the claims are cancelled.

The rejection of claims 1, 3, 10, 17, 19, 21 and 38 under pre-AIA 35 U.S.C. 103(a) as being unpatentable over McCarthy et al. (US Patent 4299749, Published 11/10/1981) in view of Wachowiak, Jr. (US Patent 6156108, Published 12/05/2000) is withdrawn in view of the unexpected data submitted in the affidavit filed on 05/02/2016.

The rejection of claims 15, 16, and 24 under pre-AIA 35 U.S.C. 103(a) as being unpatentable over McCarthy et al. (US Patent 4299749, Published 11/10/1981) in view of Wachowiak, Jr. (US Patent 6156108, Published 12/05/2000) as applied to claim 1, 3, 10, 17, 19, and 21 above, and further in view of Blue (US Patent 3976501, Published 08/24/1976) is withdrawn in view of the unexpected data submitted in the affidavit filed on 05/02/2016.

This rejection is reiterated from the previous Office Action and modified in view of the amendments to the claims.

Claims 1, 3, 10, 17, 30, 31, 34, 36, and 38 and new claims 40 are rejected under pre-AIA 35 U.S.C. 103(a) as being unpatentable over McCarthy et al. (US Patent 4299749, Published 11/10/1981) in view of Sullivan et al. (US Patent 3403119, Published 09/24/1968).

The claims are directed to a composition comprising 5 to 500pm isothiazolin-3-one, about 10 to 500pm zinc chloride, and a polymer emulsion base medium. The claims are further directed to the isothiazolin-3-one is 1,2-benzisothiazolin-3-one. The claims are further directed to the ratio of isothiazolin-3-one to zinc is from 4:1 to 1:2. The claims are further directed to the polymer comprise a plurality of monomers selected from acrylic acid and/or methacrylate.

McCarthy et al. teach a floor polish composition (title and abstract) comprising 155-175ppm 1,2-benzisothiazolin-3-one and a polymer emulsion comprising ethyl acrylate, butyl acrylate, methyl methacrylate and acrylic acid monomers (column 8, lines 50-68 and column 9, lines 1-18).

McCarthy et al. lacks a teaching wherein the composition comprises a zinc compound such as zinc chloride.

Sullivan et al. teach the addition of a polyvalent metal such as zinc chloride functions as a leveling agent and facilitates the removal of the applied polish from the flooring (column 19, lines 45-54). The amount of polyvalent metal in the polish is from 5 to 100 parts by weight per 100 parts by weight of polymeric component (prior art claim 3).

It would have been prima facie obvious to one of ordinary skill in the art at the time of the instant invention to add zinc chloride to the composition of McCarthy et al. and have a reasonable expectation of success. One would have been motivated to do so in order to provide the floor polish composition of McCarthy et al. with a leveling

agent and the property of facilitating the removal of the applied polish from the flooring. Therefore, the instant claims are rendered obvious by the teachings of the prior art.

### ***Response to Applicant's Arguments***

The rejection of claims 2, 32, and 37 under pre-AIA 35 U.S.C. 103(a) as being unpatentable over McCarthy et al. (US Patent 4299749, Published 11/10/1981) in view of Sullivan et al. (US Patent 3403119, Published 09/24/1968) is moot since the claims have been cancelled.

The rejection of claims 19 and 21 under pre-AIA 35 U.S.C. 103(a) as being unpatentable over McCarthy et al. (US Patent 4299749, Published 11/10/1981) in view of Sullivan et al. (US Patent 3403119, Published 09/24/1968) in view of the amendments to the claims.

With regard to the rejection of claims 1, 3, 10, 17, 30, 31, 34, 36, and 38 and new claims 40 under pre-AIA 35 U.S.C. 103(a) as being unpatentable over McCarthy et al. (US Patent 4299749, Published 11/10/1981) in view of Sullivan et al. (US Patent 3403119, Published 09/24/1968) the rejection is maintained.

Applicant argues that they have unexpectedly found that the combination of zinc and benzisothiazolin-3-one compounds have synergistic antimicrobial effect. Applicant's argument has been fully considered but found not to be persuasive. The unexpected data is not commensurate in scope with the instant claims. The data only shows the inhibitory effect of zinc chloride and benzisothiazolin-3-one. The instant claims 1, 10 and 17 broadly claim a combination of benzisothiazolin-3-one with zinc sulfide, zinc

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carbonate, , and zinc hydroxides. It is not clear from the data presented that it would be expected that other zinc compounds would give the same synergistic effect.

Furthermore, the claims broadly recite antimicrobial activity but the data only shows its antimicrobial effect against *Pseudomonas aeruginosa*. It is not clear that the synergistic effect would be seen against all microbes. Therefore, the rejection is maintained.

### ***Allowable Subject Matter***

Claims 19, 21, and 24 are allowed. Applicant's unexpected data with regard to zinc oxide overcomes the rejection of record.

Claims 29, 33, 35, and 39 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ALI SOROUGH whose telephone number is (571)272-9925. The examiner can normally be reached on M, W-F (9am-7:30pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Johann Richter can be reached on (571)272-0646. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/ALI SORROUSH/  
Primary Examiner, Art Unit 1617

May 27, 2016

<b><i>Examiner-Initiated Interview Summary</i></b>	<b>Application No.</b> 11/805,779	<b>Applicant(s)</b> THOMPSON ET AL.	
	<b>Examiner</b> ALI SOROUGH	<b>Art Unit</b> 1617	

All participants (applicant, applicant's representative, PTO personnel):

(1) ALI SOROUGH. (3) \_\_\_\_.

(2) Anand Patel. (4) \_\_\_\_.

Date of Interview: 05/27/2016.

Type:    ☒ Telephonic    ☐ Video Conference  
           ☐ Personal [copy given to: ☐ applicant    ☐ applicant's representative]

Exhibit shown or demonstration conducted:    ☐ Yes    ☒ No.  
     If Yes, brief description: \_\_\_\_.

Issues Discussed    ☐101    ☐112    ☐102    ☒103    ☐Others  
 (For each of the checked box(es) above, please describe below the issue and detailed description of the discussion)

Claim(s) discussed: 1, 3, 10, 15-17, 19, 21, 24, 29-31, 33-36, and 38-40.

Identification of prior art discussed: N/A.

**Substance of Interview**  
 (For each issue discussed, provide a detailed description and indicate if agreement was reached. Some topics may include: identification or clarification of a reference or a portion thereof, claim interpretation, proposed amendments, arguments of any applied references etc...)

The Examiner attempted to call Applicant's attorney to purpose claim amendments that would place all the claims in condition for allowance. The attorney did not return the Examiners multiple messages.

**Applicant recordation instructions:** It is not necessary for applicant to provide a separate record of the substance of interview.

**Examiner recordation instructions:** Examiners must summarize the substance of any interview of record. A complete and proper recordation of the substance of an interview should include the items listed in MPEP 713.04 for complete and proper recordation including the identification of the general thrust of each argument or issue discussed, a general indication of any other pertinent matters discussed regarding patentability and the general results or outcome of the interview, to include an indication as to whether or not agreement was reached on the issues raised.

☐ Attachment

/ALI SOROUGH/ Primary Examiner, Art Unit 1617	
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EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
S1	14532	tannic adj acid	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/25 19:49
S2	14946	(tannic adj acid) (Acidum adj tannicum) (Gallotannic adj acid) (Digallic adj acid) Gallotannin Tannimum Quercitannin (Oak adj bark adj tannin) (Quercotannic adj acid) ("Querci-tannic" adj acid) ("Querco- tannic" adj acid)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/25 19:51
S3	42037	potassium adj iodide	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/25 19:52
S4	10	S2 near3 S3	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/25 19:52
S5	90	S2 with S3	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/25 20:02
S6	0	S5 same ((ascrobic adj acid) (vitamin adj "c"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/25 20:03
S7	5	S5 and ((ascrobic adj acid) (vitamin adj "c"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/25 20:03
S8	79	S5 and ((ascrobic adj acid) (vitamin adj	US-PGPUB;	OR	ON	2011/03/25

		"c"))	USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB			20:04
S9	73	S5 same ((ascorbic adj acid) (vitamin adj "c"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/25 20:04
S10	73	S5 with ((ascorbic adj acid) (vitamin adj "c"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/25 20:04
S11	0	S5 with topical	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/25 20:08
S12	6	S5 same topical	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/25 20:08
S13	1	09/101623.app.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/27 12:37
S14	465	glycerol near3 emollient	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/27 12:43
S15	87	glycerol near emollient	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/27 12:43
S16	9	hydrogel with (xanthum adj gum)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT;	OR	ON	2011/03/27 12:49

			IBM_TDB			
S17	34184	(benzalkonium adj chloride)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/27 12:54
S18	14	S17 with octoxyglycerin	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/27 12:55
S19	11	octoxyglycerin with (synergy synergistic)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/27 12:55
S20	573	zinc with chondroitin	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/27 13:05
S21	10	S20 same anemia	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/27 13:05
S22	2	"5516510".pn.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/27 13:12
S23	0	(zinc adj oxide) with (isothiazilnone)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/27 13:19
S24	0	(isothiazilnone)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/27 13:19
S25	432	isothiazolin-3-one	US-PGPUB; USPAT; USOCR; FPRS; EPO;	OR	ON	2011/03/27 13:20

			JPO; DERWENT; IBM_TDB			
S26	4	S25 with (zinc adj oxide)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/27 13:20
S27	12	S25 same (zinc adj oxide)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/27 13:22
S28	1472	benzothiazoline	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/27 13:40
S29	161	S28 with preservative	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/27 13:41
S30	28	benzothiazoline-3-one	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/27 13:42
S31	0	S30 with preservative	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/27 13:42
S32	0	S30 with (zinc adj oxide)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/27 13:43
S33	0	S30 same (zinc adj oxide)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/27 13:43
S34	3	S30 same zinc	US-PGPUB; USPAT;	OR	ON	2011/03/27 13:43

			USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB			
S35	1994	paint with (zinc adj oxide)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/27 13:52
S36	45	(latex adj paint) with (zinc adj oxide)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/27 13:52
S37	510	(latex adj paint) with thickener	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/27 13:56
S38	367	S37 and (zinc oxide)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/27 13:56
S39	104	S37 and (zinc adj oxide)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/27 13:57
S40	2	"20060269616"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/28 10:52
S41	12	2004/0022869	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/28 11:22
S42	2	"20040022869"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/28 11:22

S43	2	"5227156".pn.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/28 12:04
S44	26	(zinc adj pyrrhione) with irritant	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/28 12:14
S45	3	(zinc adj sulfate) with dandruff	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/28 12:37
S46	156	(zinc adj sulfate) with pyrrhione	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/28 12:37
S47	1	S46 same dandruff	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/28 12:38
S48	29	(zinc adj sulfate) same dandruff	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/28 12:39
S49	950	ketoconazole with pyrrhione	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/28 12:44
S50	175	S49 with dandruff	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/28 12:44
S51	2	"5227156".pn.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO;	OR	ON	2012/01/09 18:27

			DERWENT; IBM_TDB			
S52	2	"5227156".pn.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/06/17 13:53
S53	92	(polymer near3 emulsion) with shampoo	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/06/17 14:47
S54	3103	benzothiazolin	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/06/17 14:53
S55	42	S54 with (acrylate (acrylic adj acid) methacrylate (polyvinyl adj acetate))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/06/17 14:54
S56	431	polish with zinc	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/06/17 15:02
S57	86	polish with (zinc adj oxide)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/06/17 15:33
S58	1120	(furniture adj polish)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/06/17 15:43
S59	3	S58 same (zinc adj oxide)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/06/17 15:43
S60	11	S55 same zinc	US-PGPUB; USPAT; USOCR;	OR	ON	2012/06/17 15:44

			FPRS; EPO; JPO; DERWENT; IBM_TDB			
S61	1	10/498902.app.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/06/17 15:47
S62	17342	polymer adj emulsion	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/06/17 15:52
S63	47	S62 same shampoo	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/06/17 15:53
S64	364	(polymer near3 emulsion) with zinc	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/06/17 15:54
S65	123	(polymer near3 emulsion) with (zinc adj oxide)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/06/17 15:59
S66	385	(acrylate (acrylic adj acid) methacrylate (polyvinyl adj acetate)) with shampoo	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/06/17 16:06
S67	48	(acrylate (acrylic adj acid) methacrylate (polyvinyl adj acetate)) near5 shampoo	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/06/17 16:06
S68	4251	Benzisothiazolinone "Benzisothiazolin- 3-one" Benzisothiazolone "1,2- benzisothiazol-3(2H)-one" "1,2- Benzisothiazolin-3-one"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2013/07/31 13:52
S69	87	S68 near5 zinc	US-PGPUB;	OR	ON	2013/07/31


			USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB			13:52
S70	2	"5444078".pn.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2013/07/31 14:14
S71	11	S68 near5 (zinc adj (chloride oxide))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2013/07/31 14:17
S72	59	S68 with (zinc adj (chloride oxide))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2013/07/31 15:17
S73	3	S72 same polymer	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2013/07/31 15:23
S74	77	S68 with (zinc near3 (salt hydroxide))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2013/07/31 15:25
S75	1357	(zinc adj pyrrhione) with salt	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2013/07/31 15:29
S76	508	(zinc adj pyrrhione) near3 salt	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2013/07/31 15:29
S77	2	"20050101487"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT;	OR	ON	2013/07/31 15:37

			IBM_TDB			
S78	1128	benzothiazolin\$3one	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/02/23 15:55
S79	26	S78 same paint	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/02/23 15:55
S80	71	S78 with zinc	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/02/23 15:59
S81	54	S78 with emulsion	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/02/23 16:23
S82	5	S78 near5 emulsion	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/02/23 16:23
S83	26	(acrylic near5 sheet) same (zinc adj oxide)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/02/23 16:44
S84	8	(counter adj top) same (zinc adj oxide)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/02/23 16:47
S85	20	S78 with polymer	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/02/23 16:51
S86	34	proxel with paint	US-PGPUB; USPAT; USOCR; FPRS; EPO;	OR	ON	2014/02/23 17:00

			JPO; DERWENT; IBM_TDB			
S87	90	proxel same paint	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/02/23 17:01
S88	448	proxel same acrylic	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/02/23 17:11
S89	58	(floor near3 (coating polishing)) same (zinc adj oxide)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/02/23 17:22
S90	2	(floor near3 (coating polishing)) same (pyrithione)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/02/23 18:38
S91	89	suspension near5 (anhydrous adj solvent)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/12/01 11:30
S92	3	(suspension with (anhydrous adj solvent) with (excipient carrier))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/12/01 11:32
S93	12936	(suspension with (solvent) with (excipient carrier))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/12/01 11:32
S94	1	13/987829.app.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/12/01 17:49
S95	26217	(optical adj pulses)	US-PGPUB; USPAT;	OR	ON	2015/12/10 12:02

			USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB			
S96	92	S95 with fiber with reflectors	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/12/10 12:02
S97	131	intraocular with (drug adj eluting)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/12/10 12:04

5/ 27/ 2016 3:43:00 PM  
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<b>Search Notes</b>  	<b>Application/Control No.</b>  11805779	<b>Applicant(s)/Patent Under Reexamination</b>  THOMPSON ET AL.
	<b>Examiner</b>  ALI SOROUGH	<b>Art Unit</b>  1616

CPC- SEARCHED		
Symbol	Date	Examiner

CPC COMBINATION SETS - SEARCHED		
Symbol	Date	Examiner

US CLASSIFICATION SEARCHED			
Class	Subclass	Date	Examiner

SEARCH NOTES		
Search Notes	Date	Examiner
see search history printouts	05/27/2016	AS
Inventors/Assignee search PALM/EAST (Nicholas Edward Thompson, Malcom Greenhalgh, Fitzgerald Clarke, Arch Chemicals)	05/27/2016	AS

INTERFERENCE SEARCH			
US Class/ CPC Symbol	US Subclass / CPC Group	Date	Examiner

/ALI SOROUGH/ Primary Examiner.Art Unit 1617	
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**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Application of:	Thompson et al.	)	Examiner:	Soroush, Ali
		)		
Serial Number:	11/805,779	)	Group Art Unit:	1617
		)		
Filed:	May 24, 2007	)	Customer Number:	22827
		)		
Confirmation No.:	3981	)	Deposit Account:	04-1403
		)		
Title:	Isothiazolinone Biocides Enhanced By Zinc Ions	)	Attorney Docket No.:	LZA-15 (P1165US01)
		)		

**AMENDMENT**

Commissioner for Patents  
P. O. Box 1450  
Alexandria, VA 22313-1450

Dear Sir:

In response to the Office Action dated May 31, 2016, Applicant respectfully submits the following amendments and arguments.

**Amendments to the Claims** are reflected in the Listing of Claims that begins on page 2 of this Amendment.

**Remarks** begin on page 6 of this Amendment.

### **LISTING OF CLAIMS**

1. (Previously Presented) An antimicrobial composition comprising:
  - (a) at least one isothiazolin-3-one selected from the group consisting of 1,2-benzisothiazolin-3-one, N-(n-butyl)-1,2-benzisothiazolin-3-one, and combinations thereof; and
  - (b) at least one zinc compound selected from the group consisting of zinc chloride, zinc sulfide, zinc carbonate, zinc oxide, zinc hydroxide, and combinations thereof;wherein said isothiazolin-3-one is present in an amount of from 1 to 500 ppm, wherein the zinc compound is present in an amount of from 5 to 200,000 ppm, and wherein the weight ratio of the isothiazolin-3-one to the zinc compound is from 1:100 to 100:1.
2. (Cancelled)
3. (Original) The composition of claim 1 wherein component (a) is present in an amount of from 5 to 500 ppm, and component (b) is present in an amount of from 5 to 500 ppm.
- 4-9. (Cancelled)
10. (Previously Presented) A functional fluid composition comprising:
  - a polymer emulsion; and
  - a wet state preservative comprising an antimicrobial composition comprising at least one isothiazolin-3-one selected from the group consisting of 1,2-benzisothiazolin-3-one, N-(n-butyl)-1,2-benzisothiazolin-3-one, and combinations thereof, and at least one zinc compound selected from the group consisting of zinc chloride, zinc sulfide, zinc carbonate, zinc oxide, zinc hydroxide, and combinations thereof,wherein said wet state preservative is present in said fluid composition in a total amount from about 10 ppm to about 400 ppm, and wherein the molar ratio of the at least one isothiazolin-3-one to the at least one zinc compound is from about 4:1 and about 1:2.
- 11-14. (Cancelled)
15. (Original) The composition of claim 10 which further comprises a co-biocide selected from the group consisting of pyrithione salts, pyrithione acids, and combinations thereof, and wherein said co-biocide is present in said composition in an amount of from about 0.001 to about 1.0% w/w based on the total weight of said composition.
16. (Original) The composition of claim 15 wherein said pyrithione salts are selected from the group consisting of copper pyrithione, zinc pyrithione, sodium pyrithione, and combinations thereof.
17. (Previously Presented) A coating composition comprising:
  - a base medium selected from the group consisting of paints, adhesives, sealants, caulks, mineral and pigment slurries, printing inks, agricultural pesticide formulations,

household coating products, personal care products, metal working fluids, and combinations thereof; and

a wet state preservative comprising an antimicrobial composition comprising at least one isothiazolin-3-one selected from the group consisting of 1,2-benzisothiazolin-3-one, N-(n-butyl)-1,2-benzisothiazolin-3-one, and combinations thereof, and at least one zinc compound selected from the group consisting of zinc chloride, zinc sulfide, zinc carbonate, zinc oxide, zinc hydroxide, and combinations thereof,

wherein said wet state preservative is present in said coating composition in a total amount from about 10 ppm to about 400 ppm, and wherein the molar ratio of the at least one isothiazolin-3-one and the at least one zinc compound is from about 4:1 to about 1:2.

18. (Cancelled)

19. (Previously Presented) An antimicrobial composition comprising:

(a) 1,2-benzisothiazolin-3-one;

(b) zinc oxide; and

wherein said isothiazolin-3-one is present in an amount from 1 to 500 ppm, wherein the zinc oxide is present in an amount from 5 to 200,000 ppm, and wherein the weight ratio of the isothiazolin-3-one to the zinc oxide is from 1:100 to 100:1.

20. (Cancelled)

21. (Previously Presented) The antimicrobial composition of claim 19 wherein component (a) is present in an amount of from 5 to 500 ppm, and component (b) is present in an amount of from 5 to 500 ppm.

22-23. (Cancelled)

24. (Previously Presented) The antimicrobial composition of claim 19 which further comprises a co-biocide selected from the group consisting of pyrithione salts, pyrithione acids, and combinations thereof, and wherein said co-biocide is present in said composition in an amount of from about 0.001 to about 1% w/w based on the total weight of said composition.

25-28. (Cancelled)

29. (Previously Presented) The antimicrobial composition of claim 1, wherein the at least one zinc compound is zinc oxide.

30. (Previously Presented) The antimicrobial composition of claim 1, wherein the zinc compound is zinc chloride.

31. (Previously Presented) The antimicrobial composition of claim 1, wherein the composition further comprises a co-biocide selected from the group consisting of pyrithione salts, pyrithione acids, and combinations thereof.

32. (Cancelled)
33. (Previously Presented) The functional fluid composition of claim 10, wherein the at least one zinc compound is zinc oxide.
34. (Previously Presented) The functional fluid composition of claim 10, wherein the zinc compound is zinc chloride.
35. (Previously Presented) The coating composition of claim 17, wherein the at least one zinc compound is zinc oxide.
36. (Previously Presented) The coating composition of claim 17, wherein the zinc compound is zinc chloride.
37. (Cancelled)
38. (Previously Presented) The antimicrobial composition of claim 1, the composition consisting of the at least one isothiazolin-3-one, the at least one zinc compound, optionally at least one polymer base medium, and optionally a co-biocide.
39. (Previously Presented) The antimicrobial composition of claim 19 wherein the composition further comprises zinc pyrithione.
40. (Previously Presented) The antimicrobial composition of claim 1, wherein the composition comprises 1,2-benzisothiazolin-3-one and zinc chloride.
41. (New) The antimicrobial composition of claim 29, wherein the composition further comprises a co-biocide selected from the group consisting of pyrithione salts, pyrithione acids, and combinations thereof.
42. (New) The antimicrobial composition of claim 41, wherein the pyrithione salt comprises zinc pyrithione.
43. (New) The antimicrobial composition of claim 30, wherein the composition further comprises a co-biocide selected from the group consisting of pyrithione salts, pyrithione acids, and combinations thereof.
44. (New) The antimicrobial composition of claim 43, wherein the pyrithione salt comprises zinc pyrithione.
45. (New) The antimicrobial composition of claim 1, wherein the composition further comprises a pyrithione salt selected from the group consisting of copper pyrithione, zinc pyrithione, sodium pyrithione, and combinations thereof.
46. (New) The antimicrobial composition of claim 45, wherein the pyrithione salt comprises zinc pyrithione.
47. (New) The composition of claim 15, wherein the pyrithione salt comprises zinc pyrithione.

48. (New) The composition of claim 33, wherein the composition further comprises a co-biocide selected from the group consisting of pyrrithione salts, pyrrithione acids, and combinations thereof.

49. (New) The composition of claim 48, wherein the pyrrithione salt comprises zinc pyrrithione.

50. (New) The composition of claim 34, wherein the composition further comprises a co-biocide selected from the group consisting of pyrrithione salts, pyrrithione acids, and combinations thereof.

51. (New) The composition of claim 50, wherein the pyrrithione salt comprises zinc pyrrithione.

52. (New) The composition of claim 10, wherein the composition further comprises a pyrrithione salt selected from the group consisting of copper pyrrithione, zinc pyrrithione, sodium pyrrithione, and combinations thereof.

53. (New) The composition of claim 35, wherein the composition further comprises a co-biocide selected from the group consisting of pyrrithione salts, pyrrithione acids, and combinations thereof.

54. (New) The composition of claim 53, wherein the pyrrithione salt comprises zinc pyrrithione.

55. (New) The composition of claim 36, wherein the composition further comprises a co-biocide selected from the group consisting of pyrrithione salts, pyrrithione acids, and combinations thereof.

56. (New) The composition of claim 55, wherein the pyrrithione salt comprises zinc pyrrithione.

57. (New) The composition of claim 17, wherein the composition further comprises a pyrrithione salt selected from the group consisting of copper pyrrithione, zinc pyrrithione, sodium pyrrithione, and combinations thereof.

58. (New) The composition of claim 57, wherein the pyrrithione salt comprises zinc pyrrithione.

59. (New) The composition of claim 19, wherein the composition further comprises a pyrrithione salt selected from the group consisting of copper pyrrithione, sodium pyrrithione, and combinations thereof.

## **REMARKS**

Favorable reconsideration and allowance of the present application in view of the foregoing amendments and following remarks are respectfully requested.

### **I. Examiner Interview**

Applicant and Attorney Patel appreciate the courtesies extended by Examiner Soroush during the telephonic interview conducted on August 25, 2016. Examiner Soroush and Attorney Patel discussed the present application and the current rejection under pre-AIA 35 U.S.C. § 103(a). Examiner Soroush indicated that the arguments presented during the interview and also provided herein were sufficient for overcoming the present rejection.

### **II. Claims**

Claims 1, 3, 10, 15-17, 19, 21, 24, 29-31, 33-36, and 38-40, including independent claims 1, 10, 17, and 19, are pending in the present application. Claims 19, 21, and 24, including independent claim 19, are allowed while claims 29, 33, 35, and 39 are objected to. New claims 41-59 have been added to the listing of claims. The pending claims are directed to an antimicrobial composition, a functional fluid composition, and a coating composition.

Claim 1 is directed to an antimicrobial composition comprising (a) at least one isothiazolin-3-one selected from the group consisting of 1,2-benzisothiazolin-3-one, N-(n-butyl)-1,2-benzisothiazolin-3-one, and combinations thereof and (b) at least one zinc compound selected from the group consisting of zinc chloride, zinc sulfide, zinc carbonate, zinc oxide, zinc hydroxide, and combinations thereof. The isothiazolin-3-one is present in an amount of from 1 to 500 ppm. The zinc compound is present in an amount of from 5 to 200,000 ppm. The weight ratio of the isothiazolin-3-one to the zinc compound is from 1:100 to 100:1.

Claim 10 is directed to a functional fluid composition comprising a polymer emulsion and a wet state preservative. The wet state preservative comprises an antimicrobial composition comprising at least one isothiazolin-3-one selected from the group consisting of 1,2-benzisothiazolin-3-one, N-(n-butyl)-1,2-benzisothiazolin-3-one, and combinations thereof and at least one zinc compound selected from the group consisting of zinc chloride, zinc sulfide, zinc carbonate, zinc oxide, zinc hydroxide, and combinations thereof. The wet state preservative is present in the fluid composition in a total amount from about 10 ppm to about 400 ppm. The molar ratio of the at least one isothiazolin-3-one to the at least one zinc compound is from about 4:1 and about 1:2.

Claim 17 is directed to a coating composition comprising a base medium and a wet state preservative. The base medium is selected from the group consisting of paints, adhesives, sealants, caulks, mineral and pigment slurries, printing inks, agricultural pesticide formulations,

household coating products, personal care products, metal working fluids, and combinations thereof. The wet state preservative comprises an antimicrobial composition comprising at least one isothiazolin-3-one selected from the group consisting of 1,2-benzisothiazolin-3-one, N-(n-butyl)-1,2-benzisothiazolin-3-one, and combinations thereof and at least one zinc compound selected from the group consisting of zinc chloride, zinc sulfide, zinc carbonate, zinc oxide, zinc hydroxide, and combinations thereof. The wet state preservative is present in the coating composition in a total amount from about 10 ppm to about 400 ppm. The molar ratio of the at least one isothiazolin-3-one and the at least one zinc compound is from about 4:1 to about 1:2.

Claim 19 is directed to an antimicrobial composition comprising 1,2-benzisothiazolin-3-one and zinc oxide. The isothiazolin-3-one is present in an amount from 1 to 500 ppm. The zinc oxide is present in an amount from 5 to 200,000 ppm. The weight ratio of the isothiazolin-3-one to the zinc oxide is from 1:100 to 100:1.

New claims 41-57 have been added to the listing of claims. Applicant respectfully submits that such new claims are supported by the present specification and that no new matter has been entered by way of such new claims.

### III. Rejection of Claims Under 35 U.S.C. § 103

In the Office Action, claims 1, 3, 10, 17, 30, 31, 34, 36, 38, and 40, including independent claims 1, 10, and 17, were rejected under pre-AIA 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 4,299,749 to McCarthy et al. (hereinafter "McCarthy") in view of U.S. Patent No. 3,403,119 to Sullivan et al. (hereinafter "Sullivan"). However, for at least the reasons set forth above, Applicant respectfully submits that the pending claims patentably define over McCarthy in view of Sullivan.

As admitted in the Office Action, McCarthy fails to teach or suggest a zinc compound. In order to cure such deficiency, the Office Action relies on the teachings of Sullivan. The Office Action asserts that it would have been obvious to one of ordinary skill in the art at the time of the invention to add the zinc compound of Sullivan to the composition of McCarthy. However, respectfully disagrees.

McCarthy is directed to a floor coating composition and requires an alkali-soluble polymer as the primary agent within the composition. (Abstract; Col. 3, lines 43-45). In addition, McCarthy requires the addition of ammonia within the composition in order to provide a pH of 9 to 9.7. (Col. 3, lines 13-15; Col. 7, lines 44-45). However, Applicant respectfully submits that Sullivan appears to teach away from employing a zinc compound, such as zinc chloride, within compositions containing such alkali-soluble polymers.

For instance, according to Sullivan, “[t]he poor detergent-resistance of most floor polishes, it has been found, is due in large part to the presence of alkali-soluble resins and emulsifiers in the floor polish.” (Col. 2, lines 20-22). Additionally, Sullivan provides that the “[e]ase of removal [of acidic floor polishes] is obtained by employing a suitable polymer emulsion of the type described herein, preferably a polymer containing to by weight free carboxyl containing monomer, wax and a polyvalent metal salt of an inorganic acid such as zinc chloride, zinc nitrate, calcium chloride, magnesium chloride, etc. The polyvalent metal salt of an inorganic acid functions as a leveling agent permitting the omission of alkali-soluble resin and facilitates the removal of the applied polish from the flooring.” (Col. 19, lines 45-54).

Essentially, based on such statements, it appears as though Sullivan teaches the use of such polyvalent metal salts of inorganic acids in compositions not containing alkali-soluble resin, due to the latter’s contribution to providing a poor detergent-resistance. However, as indicated above, such alkali-soluble resins are required by the compositions of McCarthy.

Moreover, as also mentioned above, McCarthy is directed to alkaline compositions having a pH of from 9 to 9.7. To the contrary, Sullivan is directed to acidic compositions. (Col. 3, lines 8-10). According to Sullivan, the purpose of employing the polyvalent metal salts is because such salts “are soluble in water at an acid pH” and can thus “serve as leveling agents in the acidic floor polish formulations . . . and obviate the necessity of using alkali-soluble resins.” (Col. 3, lines 19-22). Sullivan further goes on to provide that “conventional alkali-soluble resins are insoluble in aqueous acid. Omission of the alkali-soluble resin eliminates, it is believed, one of the principal sources of detergent sensitivity of the conventional applied floor polishes.” (Col. 3, lines 22-27). Thus, based on these reasons and the differences in pH, a person of ordinary skill in the art may not be motivated to employ the polyvalent metal salts of the acidic compositions of Sullivan within the alkaline compositions of McCarthy.

For at least the reasons set forth above, Applicant respectfully submits that the present claims patentably define over McCarthy in view of Sullivan. Therefore, Applicant respectfully requests withdrawal of the present rejection under pre-AIA 35 U.S.C. § 103.

#### IV. Conclusion

In summary, Applicant respectfully submits that the presently pending claims are in complete condition for allowance. However, should any issues remain after consideration of this response, then Examiner Soroush is invited and encouraged to telephone the undersigned at his convenience.

Please charge any fees required by this response and credit any overpayment to Deposit Account No. 04-1403.

Respectfully submitted,

DORITY & MANNING, P.A.

August 31, 2016  
Date

/anand k. patel/  
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# IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application of:	Thompson et al.	)	Examiner:	Ali Soroush
		)		
Serial Number:	11/805,779	)	Group Art Unit:	1617
		)		
Filed:	May 24, 2007	)	Customer Number:	22827
		)		
Confirmation No.:	3981	)	Deposit Account:	04-1403
		)		
Title:	Isothiazolinone Biocides Enhanced By Zinc Ions	)	Docket Number:	LZA-15 (P1165US01)
		)		

Commissioner for Patents  
Post Office Box 1450  
Alexandria, VA 22313-1450

Dear Sir:

The following is an Information Disclosure Statement for the captioned patent application, pursuant to 37 CFR Sections 1.56, 1.97, and 1.98.

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- c. ☐ For each non-English language item listed, pursuant to Rule 98(a)(3), a concise explanation of the relevance thereof as it is presently understood by the individual designated in Rule 56(c) most knowledgeable about the content of such items: \_\_\_\_\_

☐ Such explanation is provided in the Search Report from a corresponding application enclosed herewith along with any enclosed translation into English.

2. ☒ This Information Disclosure Statement is being filed [CHECK ONE]:

- a. ☐ WITHIN THREE MONTHS of the application filing date, national stage date of entry, or along with or after a request for continued examination, OR BEFORE the mailing date of a first Office Action on the merits, which ever event occurs last, WHEREFORE per Rule 97(b) NO filing fee or Rule 97(e) certificate is required.
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  - iv. ☐ Filing Fee per Rule 17(p) – micro entity ..... \$ 45.00

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- i. ☐ Certification per Rule 97(e); AND
- ii. ☐ Filing Fee per Rule 17(p) – large entity ..... \$ 180.00
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**DORITY & MANNING, P.A.**

By: Anand K. Patel

Registration No.: 70,705

Signature: /anand k. patel/

Date: August 31, 2016

(Rev. 5/92) Information Disclosure Statement List By Applicant(s) Under 37 CFR Section 1.98(a) (1) (Use several sheets if necessary)	Attorney Docket Number: LZA-15 (P1165US01)	Serial Number: 11/805,779
	Inventor(s): Thompson et al.	
	Filing Date: May 24, 2007 Confirmation No: 3981	Group Art Unit: 1617

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U.S. PATENT DOCUMENTS											
EXAMINER INITIALS		PATENTEE NAME	PATENT NUMBER							ISSUE DATE	COPY NOTE
		Larson et al.	5	0	5	9	4	5	6	10/22/1991	5
		Morpeth et al.	5	1	2	5	9	6	7	6/30/1992	5
		Ong	5	8	4	0	7	9	0	11/24/1998	5

U.S. PATENT APPLICATION PUBLICATIONS													
EXAMINER INITIALS		APPLICANT'S NAME		PUBLICATION NUMBER							PUBLICATION DATE	COPY NOTE	
		Lindner	2007	0	2	7	5	9	4	5	11/29/2007	5	

FOREIGN PATENT DOCUMENTS								
EXAMINER INITIALS		COUNTRY	DOCUMENT NUMBER	PUBLICATION DATE	TRANSLATION			COPY NOTE
					YES	NO*	N/A	
		EP	0455379	11/6/1991			X	
		WO	2007/139645	12/6/2007			X	

\* "NO" means that no copy of an English language translation is within the possession, custody, or control of, or is readily available to any individual designated in Rule 56(c).

EXAMINER INITIALS	OTHER DOCUMENTS [Specify author (if any), Title, Pertinent Pages, Date & Place of Publication]	COPY NOTE
	Third Party Observations for EP 07809194.9, Dated June 8, 2016	
	Third Party Observations for EP 07809194.9, Dated June 23, 2016	
	Third Party Observations for EP 07809194.9, Dated June 23, 2016	

EXAMINER	DATE CONSIDERED
Examiner: initial if citation considered; whether or not citation is in conformance with MPEP 609; draw line through citation if not in conformance and not considered. Include a copy of this form with the next communication to applicant.	

## Electronic Patent Application Fee Transmittal

<b>Application Number:</b>	11805779			
<b>Filing Date:</b>	24-May-2007			
<b>Title of Invention:</b>	Isothiazolinone biocides enhanced by zinc ions			
<b>First Named Inventor/Applicant Name:</b>	Nicholas Edward Thompson			
<b>Filer:</b>	Anand Kalyanbhai Patel/Pamela Knorr			
<b>Attorney Docket Number:</b>	LZA-15			
Filed as Large Entity				
<b>Filing Fees for Utility under 35 USC 111(a)</b>				
<b>Description</b>	<b>Fee Code</b>	<b>Quantity</b>	<b>Amount</b>	<b>Sub-Total in USD(\$)</b>
<b>Basic Filing:</b>				
<b>Pages:</b>				
<b>Claims:</b>				
Claims in Excess of 20	1202	13	80	1040
<b>Miscellaneous-Filing:</b>				
<b>Petition:</b>				
<b>Patent-Appeals-and-Interference:</b>				
<b>Post-Allowance-and-Post-Issuance:</b>				

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
<b>Extension-of-Time:</b>				
<b>Miscellaneous:</b>				
Submission- Information Disclosure Stmt	1806	1	180	180
<b>Total in USD (\$)</b>				<b>1220</b>

## Electronic Acknowledgement Receipt

<b>EFS ID:</b>	26804691
<b>Application Number:</b>	11805779
<b>International Application Number:</b>	
<b>Confirmation Number:</b>	3981
<b>Title of Invention:</b>	Isothiazolinone biocides enhanced by zinc ions
<b>First Named Inventor/Applicant Name:</b>	Nicholas Edward Thompson
<b>Customer Number:</b>	22827
<b>Filer:</b>	Anand Kalyanbhai Patel/Pamela Knorr
<b>Filer Authorized By:</b>	Anand Kalyanbhai Patel
<b>Attorney Docket Number:</b>	LZA-15
<b>Receipt Date:</b>	31-AUG-2016
<b>Filing Date:</b>	24-MAY-2007
<b>Time Stamp:</b>	17:07:46
<b>Application Type:</b>	Utility under 35 USC 111(a)

### Payment information:

Submitted with Payment	yes
Payment Type	CARD
Payment was successfully received in RAM	\$ 1220
RAM confirmation Number	090116INTEFSW17084400
Deposit Account	1027
Authorized User	Pam Knorr

The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:

File Listing:					
Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		LZA-15-Amendment083116.pdf	167041	yes	11
			937d2c58766dfbf9ac57a0c591903581fc029af		
	Multipart Description/PDF files in .zip description				
	Document Description		Start	End	
	Transmittal Letter		1	2	
	Amendment/Req. Reconsideration-After Non-Final Reject		3	3	
	Claims		4	7	
	Applicant Arguments/Remarks Made in an Amendment		8	11	
Warnings:					
Information:					
2		LZA-15-IDSLtrandList083116.pdf	171257	yes	4
			42888abde97e75ef8efb74da22b217186ee4dabe		
	Multipart Description/PDF files in .zip description				
	Document Description		Start	End	
	Transmittal Letter		1	3	
	Information Disclosure Statement (IDS) Form (SB08)		4	4	
Warnings:					
Information:					
3	Foreign Reference	EP0455379A1.pdf	586317	no	12
			cbb52f13be3b66768360ba269bf66c81f76da93b		
Warnings:					
Information:					

4	Foreign Reference	WO2007139645A2.pdf	1920074	no	42
			2dd01d181db075e1f893b15bb28299153555d4a0		
Warnings:					
Information:					
5	Other Reference-Patent/App/Search documents	ThirdPartyObservationsof06082016.pdf	31392	no	6
			ed23bdeb3b76bab3562b51149af09a607199078c		
Warnings:					
Information:					
6	Other Reference-Patent/App/Search documents	ThirdPartyObservationsof06232016_1.pdf	84473	no	3
			a8e338f71a0ed6777f11e1a85af1b109be2750cc		
Warnings:					
Information:					
7	Other Reference-Patent/App/Search documents	ThirdPartyObservationsof06232016_2.pdf	86608	no	3
			f544b8bc250ea1a82380ecd0ec6006883ded525		
Warnings:					
Information:					
8	Fee Worksheet (SB06)	fee-info.pdf	32110	no	2
			4a1e217d78378c2a926a9b6e7067ea5df1d44c93		
Warnings:					
Information:					
Total Files Size (in bytes):			3079272		

**This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.**

**New Applications Under 35 U.S.C. 111**

**If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.**

**National Stage of an International Application under 35 U.S.C. 371**

**If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.**

**New International Application Filed with the USPTO as a Receiving Office**

**If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.**

# IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application of:	Thompson et al.	)	Examiner:	Ali Soroush
		)		
Serial Number:	11/805,779	)	Group Art Unit:	1617
		)		
Filed:	May 24, 2007	)	Customer Number:	22827
		)		
Confirmation No.:	3981	)	Deposit Account:	04-1403
		)		
Title:	Isothiazolinone Biocides Enhanced By Zinc Ions	)	Docket Number:	LZA-15 (P1165US01)
		)		

## AMENDMENT

Commissioner for Patents  
Post Office Box 1450  
Alexandria, VA 22313-1450

Dear Sir:

This is an amendment in the above-identified application and includes the herewith attachment of same date and subject which is incorporated hereinto by reference and the signature below is to be treated as the signature to the attachment in absence of a signature thereto.

Fee requirements (if any) have been calculated as shown below:

	Claims remaining after amendment		Highest number previously paid for		Present Extra		Amount		Additional Fee
Total Effective Claims	38	minus	25	=	13	x	\$ 80	=	\$ <u>1,040.00</u>
Independent Claims	4	minus	7	=	0	x	\$ 420	=	\$ <u>0.00</u>

- ☐ 1<sup>st</sup> Request for Continued Examination (\$1200) is requested \$ 0.00
- ☐ 2<sup>nd</sup> Request for Continued Examination (\$1700) is requested \$ 0.00

- ☐ In view of the previously submitted Amendment / Response dated \_\_\_\_\_
- ☐ In view of the enclosed Amendment / Reply
- ☐ In view of the enclosed Affidavit(s) / Declaration(s)
- ☐ In view of the enclosed Information Disclosure Statement

Since Official Action set an original due date of \_\_\_\_\_,

**PETITION** is hereby made for an extension to cover the date this  
response is filed for which the requisite fee is enclosed (1 month \$200;  
2 months \$600; 3 months \$1,400; 4 months \$2,200, 5 months \$3,000

\$ 0.00

If amendment enters proper multiple dependent claim(s) into this application  
for first time, add \$780.00 (per application) \$ 0.00

Other: \_\_\_\_\_ \$ 0.00

**SUBTOTAL:** \$ 1,040.00

If "small entity" verified statement filed ☐ previously,  
☐ herewith, enter one-half (1/2) of subtotal and subtract - \$ 0.00

If "micro entity" verified statement filed ☐ previously,  
☐ herewith, enter three-quarters (3/4) of subtotal and subtract - \$ 0.00

Less any previous extension fee paid since above original due date. - \$ 0.00

If Terminal Disclaimer enclosed, add Rule 20(d) Official Fee (\$160.00) \$ 0.00

**TOTAL FEE ENCLOSED:** \$ 1,040.00

---

The Commissioner is hereby authorized to charge any fee specifically authorized hereafter, or any fees in addition to the fee(s) filed, or asserted to be filed, or which should have been filed herewith or concerning any paper filed hereafter, and which may be required under Rules 16-18 (deficiency only) now or hereafter relative to this application and the resulting official document under Rule 20, or credit any overpayment, to our Account No. shown in the heading hereof. This statement does not authorize charge of the issue fee in this case.

**ADDRESS:**

Post Office Box 1449  
Greenville, SC 29602 USA  
Customer ID No.: 22827  
Telephone: (864) 271-1592  
Facsimile: (864) 233-7342

**DORITY & MANNING ATTORNEYS AT LAW, P.A.**

By: Anand K. Patel Reg. No.: 70,705

Signature: /anand k. patel/

Date: August 31, 2016

---

I hereby certify that this correspondence and all attachments and any fee(s) are being electronically transmitted via the internet to the U.S. Patent and Trademark Office using the Electronic Patent Filing System on August 31, 2016.

Pamela Knorr

(Typed or printed name of person transmitting documents)

/Pamela Knorr/

(Signature of person transmitting documents)

# IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application of:	Thompson et al.	)	Examiner:	Ali Soroush
		)		
Serial Number:	11/805,779	)	Group Art Unit:	1617
		)		
Filed:	May 24, 2007	)	Customer Number:	22827
		)		
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		)		
Title:	Isothiazolinone Biocides Enhanced By Zinc Ions	)	Docket Number:	LZA-15 (P1165US01)
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Alexandria, VA 22313-1450

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	Claims remaining after amendment		Highest number previously paid for		Present Extra		Amount		Additional Fee
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- ☐ 1<sup>st</sup> Request for Continued Examination (\$1200) is requested \$ 0.00
- ☐ 2<sup>nd</sup> Request for Continued Examination (\$1700) is requested \$ 0.00

- ☐ In view of the previously submitted Amendment / Response dated \_\_\_\_\_
- ☐ In view of the enclosed Amendment / Reply
- ☐ In view of the enclosed Affidavit(s) / Declaration(s)
- ☐ In view of the enclosed Information Disclosure Statement

Since Official Action set an original due date of \_\_\_\_\_,

**PETITION** is hereby made for an extension to cover the date this response is filed for which the requisite fee is enclosed (1 month \$200; 2 months \$600; 3 months \$1,400; 4 months \$2,200, 5 months \$3,000

\$ 0.00

If amendment enters proper multiple dependent claim(s) into this application  
for first time, add \$780.00 (per application) \$ 0.00

Other: \_\_\_\_\_ \$ 0.00

**SUBTOTAL:** \$ 1,040.00

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☐ herewith, enter one-half (1/2) of subtotal and subtract - \$ 0.00

If "micro entity" verified statement filed ☐ previously,  
☐ herewith, enter three-quarters (3/4) of subtotal and subtract - \$ 0.00

Less any previous extension fee paid since above original due date. - \$ 0.00

If Terminal Disclaimer enclosed, add Rule 20(d) Official Fee (\$160.00) \$ 0.00

**TOTAL FEE ENCLOSED:** \$ 1,040.00

The Commissioner is hereby authorized to charge any fee specifically authorized hereafter, or any fees in addition to the fee(s) filed, or asserted to be filed, or which should have been filed herewith or concerning any paper filed hereafter, and which may be required under Rules 16-18 (deficiency only) now or hereafter relative to this application and the resulting official document under Rule 20, or credit any overpayment, to our Account No. shown in the heading hereof. This statement does not authorize charge of the issue fee in this case.

**ADDRESS:**

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Customer ID No.: 22827  
Telephone: (864) 271-1592  
Facsimile: (864) 233-7342

**DORITY & MANNING ATTORNEYS AT LAW, P.A.**

By: Anand K. Patel Reg. No.: 70,705

Signature: /anand k. patel/

Date: August 31, 2016

I hereby certify that this correspondence and all attachments and any fee(s) are being electronically transmitted via the internet to the U.S. Patent and Trademark Office using the Electronic Patent Filing System on August 31, 2016.

Pamela Knorr  
(Typed or printed name of person transmitting documents)

/Pamela Knorr/  
(Signature of person transmitting documents)

<b>PATENT APPLICATION FEE DETERMINATION RECORD</b> Substitute for Form PTO-875	Application or Docket Number <b>11/805,779</b>	Filing Date <b>05/24/2007</b>	<input type="checkbox"/> To be Mailed
---	---	----------------------------------	---------------------------------------

ENTITY: ☒ LARGE ☐ SMALL ☐ MICRO

**APPLICATION AS FILED – PART I**

(Column 1)

(Column 2)

FOR	NUMBER FILED	NUMBER EXTRA	RATE (\$)	FEE (\$)
<input type="checkbox"/> BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A	
<input type="checkbox"/> SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A	N/A	
<input type="checkbox"/> EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A	
TOTAL CLAIMS (37 CFR 1.16(i))	minus 20 =	*	X \$ =	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*	X \$ =	
<input type="checkbox"/> APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$310 (\$155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).			
<input type="checkbox"/> MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))				
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL	

**APPLICATION AS AMENDED – PART II**

(Column 1)

(Column 2)

(Column 3)

AMENDMENT	08/31/2016	CLAIMS REMAINING AFTER AMENDMENT	MINUS	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE (\$)	ADDITIONAL FEE (\$)
	Total (37 CFR 1.16(i))	* 38	Minus	** 25	= 13	X \$80 =	1040
	Independent (37 CFR 1.16(h))	* 4	Minus	*** 7	= 0	X \$420 =	0
	<input type="checkbox"/> Application Size Fee (37 CFR 1.16(s))						
	<input type="checkbox"/> FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))						
TOTAL ADD'L FEE						<b>1040</b>	

(Column 1)

(Column 2)

(Column 3)

AMENDMENT	CLAIMS REMAINING AFTER AMENDMENT	MINUS	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE (\$)	ADDITIONAL FEE (\$)
	Total (37 CFR 1.16(i))	*	Minus	**	=	X \$ =
	Independent (37 CFR 1.16(h))	*	Minus	***	=	X \$ =
	<input type="checkbox"/> Application Size Fee (37 CFR 1.16(s))					
	<input type="checkbox"/> FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))					
TOTAL ADD'L FEE						

\* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.

\*\* If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".

\*\*\* If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".

The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.

LIE  
TERRY MALLOY

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
11/805,779	05/24/2007	Nicholas Edward Thompson	LZA-15	3981

22827 7590 12/13/2016  
DORITY & MANNING, P.A.  
POST OFFICE BOX 1449  
GREENVILLE, SC 29602-1449

EXAMINER
----------

SOROUGH, ALI

ART UNIT	PAPER NUMBER
----------	--------------

1617

MAIL DATE	DELIVERY MODE
-----------	---------------

12/13/2016

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 11/805,779	<b>Applicant(s)</b> THOMPSON ET AL.	
	<b>Examiner</b> ALI SOROUGH	<b>Art Unit</b> 1617	<b>AIA (First Inventor to File) Status</b> No

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTHS FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
  - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
  - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 08/31/2016.  
☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on \_\_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on \_\_\_\_\_; the restriction requirement and election have been incorporated into this action.
- 4) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims\*

- 5) ☒ Claim(s) 1,3,10,15-17,19,21,24,29-31,33-36 and 38-59 is/are pending in the application.  
5a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 6) ☒ Claim(s) 10,15,16,33,34 and 47-52 is/are allowed.
- 7) ☒ Claim(s) 1,3,17,19,21,24,29-31,35,39-42,45,46,53,54,57 and 58 is/are rejected.
- 8) ☒ Claim(s) 36,38,43,44,55,56 and 59 is/are objected to.
- 9) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

\* If any claims have been determined allowable, you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see [http://www.uspto.gov/patents/init\\_events/pph/index.jsp](http://www.uspto.gov/patents/init_events/pph/index.jsp) or send an inquiry to [PPHfeedback@uspto.gov](mailto:PPHfeedback@uspto.gov).

### Application Papers

- 10) ☐ The specification is objected to by the Examiner.
- 11) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

#### Certified copies:

- a) ☐ All    b) ☐ Some\*\*    c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\*\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☒ Information Disclosure Statement(s) (PTO/SB/08a and/or PTO/SB/08b)  
Paper No(s)/Mail Date 08312016.
- 3) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 4) ☐ Other: \_\_\_\_\_.

### **DETAILED ACTION**

The present application is being examined under the pre-AIA first to invent provisions.

#### ***Acknowledgement of Receipt***

Applicant's response filed on 08/31/2016 to the Office Action mailed on 05/31/2016 is acknowledged.

#### ***Claim Status***

Claims 1, 3, 10, 15-17, 19, 21, 24, 29-31, 33-36, and 38-59 are pending.

Claims 2, 4-9, 11-14, 18, 20, 22, 23, 25-28, 32, and 37 were previously cancelled.

Claims 41-59 are newly added.

Claims 1, 3, 10, 15-17, 19, 21, 24, 29-31, 33-36, and 38-59 have been examined.

Claims 1, 3, 17, 19, 21, 24, 29, 30, 31, 35, 39, 40, 41, 42, 45, 46, 53, 54, 57, and 58 are rejected.

Claims 36, 38, 43, 44, 55, 56, and 59 are objected to.

Claims 10, 15, 16, 33, 34, and 47-52 are allowed.

#### ***Priority***

Priority to application 60/808697 filed on 05/26/2006 is acknowledged.

***Information Disclosure Statement***

The information disclosure statement (IDS) submitted on 08/31/2016 is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement has been considered by the examiner.

***New Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of pre-AIA 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

This is a new ground of rejection.

Claim(s) 1, 30, and 40 is/are rejected under pre-AIA 35 U.S.C. 102(b) as being anticipated by Frankenbach et al. (US Patent Application Publication 2003/0071075 A1, Published 04/17/2003).

The claims are directed to a composition comprising 5 to 500ppm (0.0005 to 0.05%) 1,2-benzisothiazolin-3-one and 5 to 200,000ppm zinc chloride; wherein the ratio of 1,2-benzisothiazolin-3-one to zinc chloride is 1:100 to 100:1.

Frankenbach et al. teach a fabric care composition (abstract) comprising 0.015% (150ppm) 1,2-benzisothiazolin-3-one and 1.5% zinc chloride (15,000); wherein the ratio is 1:100 (paragraph 0218, example 14). Therefore, the instant claims are anticipated by the prior.

***Withdrawn and New Claim Rejections – 35 USC § 103***

The following is a quotation of pre-AIA 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under pre-AIA 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under pre-AIA 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of pre-AIA 35 U.S.C. 103(c) and potential pre-AIA 35 U.S.C. 102(e), (f) or (g) prior art under pre-AIA 35 U.S.C. 103(a).

***Response to Applicant's Arguments***

The rejection of claims 1, 3, 10, 17, 30, 31, 34, 36, 38 and 40 under pre-AIA 35 U.S.C. 103(a) as being unpatentable over McCarthy et al. (US Patent 4299749, Published 11/10/1981) in view of Sullivan et al. (US Patent 3403119, Published 09/24/1968) is withdrawn in view of Applicant's arguments.

This is a new ground of rejection.

Claim 1, 3, 17, 19, 21, 24, 29, 31, 35, 39, 40, 41, 42, 45, 46, 53, 54, 57, and 58 is/are rejected under pre-AIA 35 U.S.C. 103(a) as being unpatentable over Beilfuss et al. (US Patent Application Publication 2005/0101487 A1, Published 05/12/2005).

The claims are directed to a composition comprising 5 to 500ppm (0.0005 to 0.05%) 1,2-benzisothiazolin-3-one, 5 to 500ppm zinc oxide, and 0.001 to 1% zinc pyrithione; wherein the ratio of 1,2-benzisothiazolin-3-one to zinc oxide is 4:1 to 1:2.

Beilfuss et al. teach a composition comprising 10% (10,000 ppm) zinc oxide, 0.03% (300ppm) 1,2-benzisothiazolin-3-one, and 40.0% zinc pyrithione (paragraph 0139). The zinc oxide may be present in the composition in amounts ranging from 0 to 20% (paragraph 0058).

Beilfuss et al. lacks a preferred embodiment wherein the ratio of 1,2-benzisothiazolin-3-one to zinc oxide as instantly claimed.

It would have been prima facie obvious to one of ordinary skill in the art at the time of the instant invention to adjust the amount of zinc oxide to the amount instantly claimed and in the ratio instantly claimed and have a reasonable expectation of

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success. In the case where the claimed ranges “overlap or lie inside ranges disclosed by the prior art” a prima facie case of obviousness exists. In re Wertheim, 541 F.2d 257, 191 USPQ 90 (CCPA 1976); In re Woodruff, 919 F.2d 1575, 16 USPQ2d 1934 (Fed. Cir. 1990). Generally, differences in concentration or temperature will not support the patentability of subject matter encompassed by the prior art unless there is evidence indicating such concentration or temperature is critical. “[W]here the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation.” In re Aller, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955). The instant amount of zinc oxide overlaps with the range disclosed by Beilfuss et al. Therefore, it would be no more than routine optimization of the formulation and arrive at the instant ratio and amount of zinc oxide. Therefore, the instant claims are rendered obvious by the teachings of the prior art.

### ***Allowable Subject Matter***

Claims 10, 15, 16, 33, 34, and 47-52 are allowed.

Claims 36, 38, 43, 44, 55, 56, and 59 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ALI SOROUGH whose telephone number is (571)272-9925. The examiner can normally be reached on M, W-F (9am-7:30pm).

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Johann Richter can be reached on (571)272-0646. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/ALI SOROUGH/  
Primary Examiner, Art Unit 1617

<b>Notice of References Cited</b>	Application/Control No. 11/805,779		Applicant(s)/Patent Under Reexamination THOMPSON ET AL.	
	Examiner ALI SOROUGH		Art Unit 1617	Page 1 of 1

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*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	CPC Classification	US Classification
*	A	US-2003/0071075 A1	04-2003	Frankenbach, Gayle Marie	C11D3/0015	222/383.1
*	B	US-2005/0101487 A1	05-2005	Beilfuss, Wolfgang	A01N43/70	504/134
	C	US-				
	D	US-				
	E	US-				
	F	US-				
	G	US-				
	H	US-				
	I	US-				
	J	US-				
	K	US-				
	L	US-				
	M	US-				


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	O					
	P					
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	R					
	S					
	T					

**NON-PATENT DOCUMENTS**

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
	U	
	V	
	W	
	X	

\*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)  
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

<b>Search Notes</b>  	<b>Application/Control No.</b>  11805779	<b>Applicant(s)/Patent Under Reexamination</b>  THOMPSON ET AL.
	<b>Examiner</b>  ALI SOROUGH	<b>Art Unit</b>  1616

CPC- SEARCHED		
Symbol	Date	Examiner

CPC COMBINATION SETS - SEARCHED		
Symbol	Date	Examiner

US CLASSIFICATION SEARCHED			
Class	Subclass	Date	Examiner

SEARCH NOTES		
Search Notes	Date	Examiner
see search history printouts	12/10/2016	AS
Inventors/Assignee search PALM/EAST (Nicholas Edward Thompson, Malcom Greenhalgh, Fitzgerald Clarke, Arch Chemicals)	12/10/2016	AS

INTERFERENCE SEARCH			
US Class/ CPC Symbol	US Subclass / CPC Group	Date	Examiner

/ALI SOROUGH/  
Primary Examiner.Art Unit 1617

## EAST Search History

## EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
S1	14532	tannic adj acid	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/25 19:49
S2	14946	(tannic adj acid) (Acidum adj tannicum) (Gallotannic adj acid) (Digallic adj acid) Gallotannin Tanninum Quercitannin (Oak adj bark adj tannin) (Quercotannic adj acid) ("Querci-tannic" adj acid) ("Quercotannic" adj acid)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/25 19:51
S3	42037	potassium adj iodide	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/25 19:52
S4	10	S2 near3 S3	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/25 19:52
S5	90	S2 with S3	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/25 20:02
S6	0	S5 same ((ascrobic adj acid) (vitamin adj "c"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/25 20:03
S7	5	S5 and ((ascrobic adj acid) (vitamin adj "c"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/25 20:03
S8	79	S5 and ((ascrobic adj acid) (vitamin	US-PGPUB;	OR	ON	2011/03/25

		adj "c"))	USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB			20:04
S9	73	S5 same ((ascorbic adj acid) (vitamin adj "c"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/25 20:04
S10	73	S5 with ((ascorbic adj acid) (vitamin adj "c"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/25 20:04
S11	0	S5 with topical	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/25 20:08
S12	6	S5 same topical	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/25 20:08
S13	1	09/101623.app.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/27 12:37
S14	465	glycerol near3 emollient	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/27 12:43
S15	87	glycerol near emollient	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/27 12:43
S16	9	hydrogel with (xanthum adj gum)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT;	OR	ON	2011/03/27 12:49

			IBM_TDB			
S17	34184	(benzalkonium adj chloride)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/27 12:54
S18	14	S17 with octoxyglycerin	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/27 12:55
S19	11	octoxyglycerin with (synergy synergistic)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/27 12:55
S20	573	zinc with chondroitin	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/27 13:05
S21	10	S20 same anemia	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/27 13:05
S22	2	"5516510".pn.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/27 13:12
S23	0	(zinc adj oxide) with (isothiazilnone)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/27 13:19
S24	0	(isothiazilnone)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/27 13:19
S25	432	isothiazolin-3-one	US-PGPUB; USPAT; USOCR; FPRS; EPO;	OR	ON	2011/03/27 13:20

			JPO; DERWENT; IBM_TDB			
S26	4	S25 with (zinc adj oxide)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/27 13:20
S27	12	S25 same (zinc adj oxide)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/27 13:22
S28	1472	benzisothiazoline	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/27 13:40
S29	161	S28 with preservative	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/27 13:41
S30	28	benzisothiazoline-3-one	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/27 13:42
S31	0	S30 with preservative	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/27 13:42
S32	0	S30 with (zinc adj oxide)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/27 13:43
S33	0	S30 same (zinc adj oxide)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/27 13:43
S34	3	S30 same zinc	US-PGPUB; USPAT;	OR	ON	2011/03/27 13:43

			USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB			
S35	1994	paint with (zinc adj oxide)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/27 13:52
S36	45	(latex adj paint) with (zinc adj oxide)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/27 13:52
S37	510	(latex adj paint) with thickener	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/27 13:56
S38	367	S37 and (zinc oxide)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/27 13:56
S39	104	S37 and (zinc adj oxide)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/27 13:57
S40	2	"20060269616"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/28 10:52
S41	12	2004/0022869	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/28 11:22
S42	2	"20040022869"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/28 11:22

S43	2	"5227156".pn.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/28 12:04
S44	26	(zinc adj pyrrithione) with irritant	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/28 12:14
S45	3	(zinc adj sulfate) with dandruff	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/28 12:37
S46	156	(zinc adj sulfate) with pyrrithione	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/28 12:37
S47	1	S46 same dandruff	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/28 12:38
S48	29	(zinc adj sulfate) same dandruff	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/28 12:39
S49	950	ketoconazole with pyrrithione	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/28 12:44
S50	175	S49 with dandruff	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/28 12:44
S51	2	"5227156".pn.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO;	OR	ON	2012/01/09 18:27

			DERWENT; IBM_TDB			
S52	2	"5227156".pn.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/06/17 13:53
S53	92	(polymer near3 emulsion) with shampoo	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/06/17 14:47
S54	3103	benzisothiazolin	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/06/17 14:53
S55	42	S54 with (acrylate (acrylic adj acid) methacrylate (polyvinyl adj acetate))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/06/17 14:54
S56	431	polish with zinc	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/06/17 15:02
S57	86	polish with (zinc adj oxide)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/06/17 15:33
S58	1120	(furniture adj polish)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/06/17 15:43
S59	3	S58 same (zinc adj oxide)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/06/17 15:43
S60	11	S55 same zinc	US-PGPUB; USPAT; USOCR;	OR	ON	2012/06/17 15:44

			FPRS; EPO; JPO; DERWENT; IBM_TDB			
S61	1	10/498902.app.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/06/17 15:47
S62	17342	polymer adj emulsion	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/06/17 15:52
S63	47	S62 same shampoo	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/06/17 15:53
S64	364	(polymer near3 emulsion) with zinc	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/06/17 15:54
S65	123	(polymer near3 emulsion) with (zinc adj oxide)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/06/17 15:59
S66	385	(acrylate (acrylic adj acid) methacrylate (polyvinyl adj acetate)) with shampoo	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/06/17 16:06
S67	48	(acrylate (acrylic adj acid) methacrylate (polyvinyl adj acetate)) near5 shampoo	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/06/17 16:06
S68	4251	Benzisothiazolinone "Benzisothiazolin- 3-one" Benzisothiazolone "1,2- benzisothiazol-3(2H)-one" "1,2- Benzisothiazolin-3-one"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2013/07/31 13:52
S69	87	S68 near5 zinc	US-PGPUB;	OR	ON	2013/07/31

			USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB			13:52
S70	2	"5444078".pn.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2013/07/31 14:14
S71	11	S68 near5 (zinc adj (chloride oxide))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2013/07/31 14:17
S72	59	S68 with (zinc adj (chloride oxide))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2013/07/31 15:17
S73	3	S72 same polymer	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2013/07/31 15:23
S74	77	S68 with (zinc near3 (salt hydroxide))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2013/07/31 15:25
S75	1357	(zinc adj pyrithione) with salt	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2013/07/31 15:29
S76	508	(zinc adj pyrithione) near3 salt	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2013/07/31 15:29
S77	2	"20050101487"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT;	OR	ON	2013/07/31 15:37

			IBM_TDB			
S78	1128	benzisothiazolin\$3one	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/02/23 15:55
S79	26	S78 same paint	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/02/23 15:55
S80	71	S78 with zinc	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/02/23 15:59
S81	54	S78 with emulsion	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/02/23 16:23
S82	5	S78 near5 emulsion	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/02/23 16:23
S83	26	(acrylic near5 sheet) same (zinc adj oxide)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/02/23 16:44
S84	8	(counter adj top) same (zinc adj oxide)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/02/23 16:47
S85	20	S78 with polymer	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/02/23 16:51
S86	34	proxel with paint	US-PGPUB; USPAT; USOCR; FPRS; EPO;	OR	ON	2014/02/23 17:00

			JPO; DERWENT; IBM_TDB			
S87	90	proxel same paint	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/02/23 17:01
S88	448	proxel same acrylic	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/02/23 17:11
S89	58	(floor near3 (coating polishing)) same (zinc adj oxide)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/02/23 17:22
S90	2	(floor near3 (coating polishing)) same (pyrithione)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/02/23 18:38
S91	89	suspension near5 (anhydrous adj solvent)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/12/01 11:30
S92	3	(suspension with (anhydrous adj solvent) with (excipient carrier))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/12/01 11:32
S93	12936	(suspension with (solvent) with (excipient carrier))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/12/01 11:32
S94	1	13/987829.app.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/12/01 17:49
S95	26217	(optical adj pulses)	US-PGPUB; USPAT;	OR	ON	2015/12/10 12:02

			USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB			
S96	92	S95 with fiber with reflectors	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/12/10 12:02
S97	131	intraocular with (drug adj eluting)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/12/10 12:04
S98	375	hospital near3 scrub	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/06/02 12:16
S99	153	hospital near3 scrub	USPAT	OR	ON	2016/06/02 12:17
S100	1680	benzisothiazolin\$4one	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/12/08 14:58
S101	12	S100 near3 zinc	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/12/08 14:59
S102	35	S100 near5 zinc	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/12/08 14:59
S103	120	S100 with zinc	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/12/08 15:00
S104	129	paint with (zinc adj chloride)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO;	OR	ON	2016/12/08 15:03

			DERWENT; IBM_TDB			
S105	7	S104 and mildew	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/12/08 15:03
S106	0	paint with pyrithione with mildewcidal	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/12/08 15:09
S107	0	paint with pyrithione same mildewcidal	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/12/08 15:09
S108	451	paint with pyrithione	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/12/08 15:10
S109	0	S108 and mildewcidal	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/12/08 15:10
S110	2615	mildewcide mildewcidal	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/12/08 15:12
S111	324	S110 with paint	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/12/08 15:13
S112	6	S111 with pyrithione	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/12/08 15:13
S113	9363	metalworking	US-PGPUB; USPAT; USOCR;	OR	ON	2016/12/08 15:15

			FPRS; EPO; JPO; DERWENT; IBM_TDB			
S114	4	S113 with mildew	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/12/08 15:15
S115	2	S113 with S110	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/12/08 15:15
S116	27	S113 same S110	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/12/08 15:16
S117	155	(zinc adj (chloride oxide)) with S110	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/12/08 15:19
S118	0	S117 with synerg\$5	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/12/08 15:20
S119	0	S117 same synerg\$5	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/12/08 15:20
S120	5	S117 and synerg\$5	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/12/08 15:20
S121	155	S117	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/12/08 15:35
S122	2615	mildewcide mildewcidal	US-PGPUB;	OR	ON	2016/12/08

			USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB			17:26
S123	155	(zinc adj (chloride oxide)) with S122	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/12/08 17:26
S124	155	S123	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/12/08 17:26
S125	155	S124	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/12/08 17:26
S126	3	"5667795".pn.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/12/08 17:33
S127	3131	Proxel near3 GXL	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/12/08 17:48
S128	3	S127 near5 zinc	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/12/08 17:48
S129	52	S127 with zinc	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/12/08 17:49
S130	0	BIT near3 zinx	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT;	OR	ON	2016/12/08 17:52

			IBM_TDB			
S131	117	BIT near3 zinc	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/12/08 17:52
S132	0	S131 NOT bits	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/12/08 17:53
S133	3	"20050101487"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/12/08 17:54
S134	5	"5401757".pn.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/12/08 18:26
S135	40	paint with proxel	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/12/08 18:30
S136	18	S135 and zinc	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/12/08 18:30
S137	6684	proxel	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/12/08 18:43
S138	1	S137 near5 (zinc adj (chloride oxide sulfide sulphide carbonate hydroxide))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/12/08 18:44
S139	84525	zinc adj chloride	US-PGPUB; USPAT; USOCR; FPRS; EPO;	OR	ON	2016/12/09 20:33

			JPO; DERWENT; IBM_TDB			
S140	1680	benzisothiazolin\$4one	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/12/09 20:35
S141	3131	Proxel near3 GXL	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/12/09 20:35
S142	4695	S140 S141	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/12/09 20:35
S143	0	S139 near5 S142	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/12/09 20:35
S144	0	S139 with S142	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/12/09 20:36
S145	0	S139 with S140	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/12/09 20:36
S146	0	S139 same S140	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/12/09 20:37
S147	1680	benzisothiazolin\$4one	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/12/09 20:37
S148	4695	benzisothiazolin\$4one (Proxel near3 GXL)	US-PGPUB; USPAT;	OR	ON	2016/12/09 20:38

			USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB			
S149	0	S148 with (zinc adj chloride)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/12/09 20:38
S150	3	S148 same (zinc adj chloride)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/12/09 20:38
S151	3	(fabric adj care) with (zinc adj pyrithione)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/12/09 21:15
S152	8	(fabric adj care) same (zinc adj pyrithione)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/12/09 21:15
S153	155	(fabric adj care) and (zinc adj pyrithione)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/12/09 21:15
S154	49	fabric with (zinc adj pyrithione)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/12/09 21:20
S155	4	fabric with (zinc adj pyrithione) with emulsion	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/12/09 21:21
S156	281	S148 with emulsion	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/12/09 21:25

S157	16	S156 with zinc	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/12/09 21:25
S158	1	1,2-benzathiazoline-3-one	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/12/09 21:26
S159	1	"1,2-benzathiazoline-3-one"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/12/09 21:26
S160	16	S156 same zinc	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/12/09 21:27
S161	76	S156 and zinc	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/12/09 21:27
S162	38	S148 near5 zinc	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/12/09 21:36
S163	0	S162 with emulsion	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/12/09 21:36
S164	0	S162 same emulsion	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/12/09 21:36
S165	4	"5688853".pn.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO;	OR	ON	2016/12/09 21:37

			DERWENT; IBM_TDB			
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12/ 10/ 2016 4:27:35 PM  
C:\ Users\ asoroush\ Documents\ EAST\ Workspaces\ 11805779.wsp

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /A.S/

(Rev. 5/92) Information Disclosure Statement List By Applicant(s) Under 37 CFR Section 1.98(a) (1) (Use several sheets if necessary)	Attorney Docket Number: LZA-15 (P1165US01)	Serial Number: 11/805,779
	Inventor(s): Thompson et al.	
	Filing Date: May 24, 2007 Confirmation No: 3981	Group Art Unit: 1617

NOTE: If no indication is made in the column marked "COPY NOTE," the required legible copy of the corresponding item is submitted herewith; otherwise, a copy is not required and/or not submitted, for the following reason(s) [corresponding reason number is listed in "COPY NOTE" column]"

- (1) This item is cumulative, per Rule 98(c)
- (2) A copy of this item was previously cited by or submitted to the U.S. Patent and Trademark Office in:  
     USSN \_\_\_\_\_, filed \_\_\_\_\_, or  
     USSN \_\_\_\_\_, filed \_\_\_\_\_; Relied on under 35 U.S.C. Section 120, per Rule 98(d)
- (3) Both reasons (1) and (2) apply
- (4) No legible complete copy is possessed, in custody of controlled, or readily available
- (5) Per the U.S. Patent and Trademark Office's waiver of Rule 98(a)(2)(i), the item is a U.S. patent or patent application publication, and the present application was filed after June 30, 2003.

U.S. PATENT DOCUMENTS											
EXAMINER INITIALS	PATENTEE NAME	PATENT NUMBER								ISSUE DATE	COPY NOTE
	Larson et al.	5	0	5	9	4	5	6		10/22/1991	5
	Morpeth et al.	5	1	2	5	9	6	7		6/30/1992	5
	Ong	5	8	4	0	7	9	0		11/24/1998	5

U.S. PATENT APPLICATION PUBLICATIONS											
EXAMINER INITIALS	APPLICANT'S NAME			PUBLICATION NUMBER						PUBLICATION DATE	COPY NOTE
	Lindner	2007	0	2	7	5	9	4	5	11/29/2007	5

FOREIGN PATENT DOCUMENTS							
EXAMINER INITIALS	COUNTRY	DOCUMENT NUMBER	PUBLICATION DATE	TRANSLATION			COPY NOTE
				YES	NO*	N/A	
	EP	0455379	11/6/1991			X	
	WO	2007/139645	12/6/2007			X	

\* "NO" means that no copy of an English language translation is within the possession, custody, or control of, or is readily available to any individual designated in Rule 56(c).

EXAMINER INITIALS	OTHER DOCUMENTS [Specify author (if any), Title, Pertinent Pages, Date & Place of Publication]	COPY NOTE
	Third Party Observations for EP 07809194.9, Dated June 8, 2016	
	Third Party Observations for EP 07809194.9, Dated June 23, 2016	
	Third Party Observations for EP 07809194.9, Dated June 23, 2016	

EXAMINER	/ALI SOROUGH/	DATE CONSIDERED 12/10/2016
Examiner: initial if citation considered; whether or not citation is in conformance with MPEP 609; draw line through citation if not in conformance and not considered. Include a copy of this form with the next communication to applicant.		

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Application of:	Thompson et al.	)	Examiner:	Soroush, Ali
		)		
Serial Number:	11/805,779	)	Group Art Unit:	1617
		)		
Filed:	May 24, 2007	)	Customer Number:	22827
		)		
Confirmation No.:	3981	)	Deposit Account:	04-1403
		)		
Title:	Isothiazolinone Biocides Enhanced By Zinc Ions	)	Attorney Docket No.:	LZA-15 (P1165US01)
		)		

**AMENDMENT**

Commissioner for Patents  
P. O. Box 1450  
Alexandria, VA 22313-1450

Dear Sir:

In response to the Office Action dated December 13, 2016, Applicant respectfully submits the following amendments and arguments.

**Amendments to the Claims** are reflected in the Listing of Claims that begins on page 2 of this Amendment.

**Remarks** begin on page 6 of this Amendment.

# IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application of:	Thompson et al.	)	Examiner:	Ali Soroush
		)		
Serial Number:	11/805,779	)	Group Art Unit:	1617
		)		
Filed:	May 24, 2007	)	Customer Number:	22827
		)		
Confirmation No.:	3981	)	Deposit Account:	04-1403
		)		
Title:	Isothiazolinone Biocides Enhanced By Zinc Ions	)	Docket Number:	LZA-15 (P1165US01)
		)		

## AMENDMENT

Commissioner for Patents  
Post Office Box 1450  
Alexandria, VA 22313-1450

Dear Sirs:

This is an amendment in the above-identified application and includes the herewith attachment of same date and subject which is incorporated hereinto by reference and the signature below is to be treated as the signature to the attachment in absence of a signature thereto.

Fee requirements (if any) have been calculated as shown below:

	Claims remaining after amendment		Highest number previously paid for		Present Extra		Amount		Additional Fee
Total Effective Claims	39	minus	38	=	1	x	\$ 80	=	\$ <u>80.00</u>
Independent Claims	5	minus	7	=	0	x	\$ 420	=	\$ <u>0.00</u>

- ☐ 1<sup>st</sup> Request for Continued Examination (\$1200) is requested \$ 0.00
- ☐ 2<sup>nd</sup> Request for Continued Examination (\$1700) is requested \$ 0.00

- ☐ In view of the previously submitted Amendment / Response dated \_\_\_\_\_
- ☐ In view of the enclosed Amendment / Reply
- ☐ In view of the enclosed Affidavit(s) / Declaration(s)
- ☐ In view of the enclosed Information Disclosure Statement

Since Official Action set an original due date of \_\_\_\_\_,

**PETITION** is hereby made for an extension to cover the date this  
response is filed for which the requisite fee is enclosed (1 month \$200;  
2 months \$600; 3 months \$1,400; 4 months \$2,200; 5 months \$3,000

\$ 0.00

If amendment enters proper multiple dependent claim(s) into this application  
for first time, add \$780.00 (per application) \$ 0.00

Other: \_\_\_\_\_ \$ 0.00

**SUBTOTAL:** \$ 80.00

If "small entity" verified statement filed ☐ previously,  
☐ herewith, enter one-half (1/2) of subtotal and subtract - \$ 0.00

If "micro entity" verified statement filed ☐ previously,  
☐ herewith, enter three-quarters (3/4) of subtotal and subtract - \$ 0.00

Less any previous extension fee paid since above original due date. - \$ 0.00

If Terminal Disclaimer enclosed, add Rule 20(d) Official Fee (\$160.00) \$ 0.00

**TOTAL FEE ENCLOSED:** \$ 80.00

The Commissioner is hereby authorized to charge any fee specifically authorized hereafter, or any fees in addition to the fee(s) filed, or asserted to be filed, or which should have been filed herewith or concerning any paper filed hereafter, and which may be required under Rules 16-18 (deficiency only) now or hereafter relative to this application and the resulting official document under Rule 20, or credit any overpayment, to our Account No. shown in the heading hereof. This statement does not authorize charge of the issue fee in this case.

**ADDRESS:**

Post Office Box 1449  
Greenville, SC 29602 USA  
Customer ID No.: 22827  
Telephone: (864) 271-1592  
Facsimile: (864) 233-7342

**DORITY & MANNING ATTORNEYS AT LAW, P.A.**

By: Anand K. Patel Reg. No.: 70,705

Signature: /anand k. patel/

Date: February 20, 2017

I hereby certify that this correspondence and all attachments and any fee(s) are being electronically transmitted via the internet to the U.S. Patent and Trademark Office using the Electronic Patent Filing System on February 20, 2017.

Pamela Knorr  
(Typed or printed name of person transmitting documents)

/Pamela Knorr/  
(Signature of person transmitting documents)

## Electronic Patent Application Fee Transmittal

<b>Application Number:</b>	11805779			
<b>Filing Date:</b>	24-May-2007			
<b>Title of Invention:</b>	Isothiazolinone biocides enhanced by zinc ions			
<b>First Named Inventor/Applicant Name:</b>	Nicholas Edward Thompson			
<b>Filer:</b>	Anand Kalyanbhai Patel/Pamela Knorr			
<b>Attorney Docket Number:</b>	LZA-15			
Filed as Large Entity				
<b>Filing Fees for Utility under 35 USC 111(a)</b>				
<b>Description</b>	<b>Fee Code</b>	<b>Quantity</b>	<b>Amount</b>	<b>Sub-Total in USD(\$)</b>
<b>Basic Filing:</b>				
<b>Pages:</b>				
<b>Claims:</b>				
CLAIMS IN EXCESS OF 20	1202	1	80	80
<b>Miscellaneous-Filing:</b>				
<b>Petition:</b>				
<b>Patent-Appeals-and-Interference:</b>				
<b>Post-Allowance-and-Post-Issuance:</b>				

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Extension-of-Time:				
Miscellaneous:				
Total in USD (\$)				80

## Electronic Acknowledgement Receipt

<b>EFS ID:</b>	28401707
<b>Application Number:</b>	11805779
<b>International Application Number:</b>	
<b>Confirmation Number:</b>	3981
<b>Title of Invention:</b>	Isothiazolinone biocides enhanced by zinc ions
<b>First Named Inventor/Applicant Name:</b>	Nicholas Edward Thompson
<b>Customer Number:</b>	22827
<b>Filer:</b>	Anand Kalyanbhai Patel/Pamela Knorr
<b>Filer Authorized By:</b>	Anand Kalyanbhai Patel
<b>Attorney Docket Number:</b>	LZA-15
<b>Receipt Date:</b>	20-FEB-2017
<b>Filing Date:</b>	24-MAY-2007
<b>Time Stamp:</b>	10:32:47
<b>Application Type:</b>	Utility under 35 USC 111(a)

### Payment information:

Submitted with Payment	yes
Payment Type	CARD
Payment was successfully received in RAM	\$80
RAM confirmation Number	022117INTEFSW10344200
Deposit Account	
Authorized User	

The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:

File Listing:					
Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		LZA-15-Amendment022017. PDF	197704	yes	19
			17d607c8db39d9247bab84aee1f96b09d5b70603		
	Multipart Description/PDF files in .zip description				
	Document Description		Start	End	
	Applicant Arguments/Remarks Made in an Amendment		9	19	
	Claims		4	8	
	Amendment/Req. Reconsideration-After Non-Final Reject		3	3	
	Transmittal Letter		1	2	
Warnings:					
Information:					
2	Fee Worksheet (SB06)	fee-info.pdf	30205	no	2
			8d01fcee6849166fd57ab87cd10c006152af ea84		
Warnings:					
Information:					
Total Files Size (in bytes):			227909		

**This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.**

**New Applications Under 35 U.S.C. 111**

**If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.**

**National Stage of an International Application under 35 U.S.C. 371**

**If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.**

**New International Application Filed with the USPTO as a Receiving Office**

**If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.**

## **REMARKS**

Favorable reconsideration and allowance of the present application in view of the foregoing amendments and following remarks are respectfully requested.

### **I. Examiner Interview**

Applicant and Attorney Patel appreciate the courtesies extended by Examiner Soroush during the telephonic interview conducted on February 17, 2017. Examiner Soroush and Attorney Patel discussed the present application and the current prior art rejections. Examiner Soroush indicated that the arguments and amendments presented during the interview and also provided herein were sufficient for overcoming the present rejections.

### **II. Claims**

Claims 1, 3, 10, 15-17, 19, 21, 24, 29-31, 33-36, and 38-59, including independent claims 1, 10, 17, and 19, are pending in the present application. Claims 10, 15, 16, 33, 34, and 47-52, including independent claim 15, were allowed while claims 36, 38, 43, 44, 55, 56, and 59 were objected to. Meanwhile, claims 1, 3, 17, 19, 21, 24, 29-31, 35, 39-42, 45, 46, 53, 54, 57, and 58, including independent claims 1, 17, and 19, were rejected. New independent claim 60 has been added to the listing of claims. The pending claims are directed to an antimicrobial composition, a functional fluid composition, and a coating composition.

Claim 1 is directed to an antimicrobial composition comprising (a) at least one isothiazolin-3-one selected from the group consisting of 1,2-benzisothiazolin-3-one, N-(n-butyl)-1,2-benzisothiazolin-3-one, and combinations thereof and (b) at least one zinc compound comprising zinc chloride, zinc oxide, or a combination thereof. The isothiazolin-3-one is present in an amount of from 1 to 500 ppm. The zinc compound is present in an amount of from 5 to 200,000 ppm. The weight ratio of the isothiazolin-3-one to the zinc compound is from 1:100 to 100:1.

Claim 10 is directed to a functional fluid composition comprising a polymer emulsion and a wet state preservative. The wet state preservative comprises an antimicrobial composition comprising at least one isothiazolin-3-one selected from the group consisting of 1,2-benzisothiazolin-3-one, N-(n-butyl)-1,2-benzisothiazolin-3-one, and combinations thereof and at least one zinc compound comprising zinc chloride, zinc oxide, or a combination thereof. The isothiazolin-3-one is present in an amount of from 1 to 500 ppm. The zinc compound is present in an amount of from 5 to 200,000 ppm. The weight ratio of the isothiazolin-3-one to the zinc compound is from 1:100 to 100:1.

Claim 17 is directed to a coating composition comprising a base medium and a wet state preservative. The base medium is selected from the group consisting of paints, adhesives,

sealants, caulks, mineral and pigment slurries, printing inks, agricultural pesticide formulations, household coating products, personal care products, metal working fluids, and combinations thereof. The wet state preservative comprises an antimicrobial composition comprising at least one isothiazolin-3-one selected from the group consisting of 1,2-benzisothiazolin-3-one, N-(n-butyl)-1,2-benzisothiazolin-3-one, and combinations thereof and at least one zinc compound comprising consisting of zinc chloride, zinc oxide, or a combination thereof. The isothiazolin-3-one is present in an amount of from 1 to 500 ppm. The zinc compound is present in an amount of from 5 to 200,000 ppm. The weight ratio of the isothiazolin-3-one to the zinc compound is from 1:100 to 100:1.

Claim 19 is directed to an antimicrobial composition comprising 1,2-benzisothiazolin-3-one and zinc oxide. The isothiazolin-3-one is present in an amount from 1 to 500 ppm. The zinc oxide is present in an amount from 5 to 200,000 ppm. The weight ratio of the isothiazolin-3-one to the zinc oxide is from 1:100 to 100:1.

New claim 60 is directed to a functional fluid composition comprising a polymer emulsion and a wet state preservative. The wet state preservative comprises an antimicrobial composition comprising at least one isothiazolin-3-one selected from the group consisting of 1,2-benzisothiazolin-3-one, N-(n-butyl)-1,2-benzisothiazolin-3-one, and combinations thereof and at least one zinc compound comprising zinc chloride, zinc sulfide, zinc carbonate, zinc oxide, zinc hydroxide, or a combination thereof. The wet state preservative is present in the fluid composition in a total amount from about 10 ppm to about 400 ppm. The molar ratio of the at least one isothiazolin-3-one to the at least one zinc compound is from about 4:1 and about 1:2.

New claim 60 is based on previously presented and allowed claim 10. Accordingly, Applicant respectfully submits that no new matter has been entered by way of such new claim.

### III. Rejection of Claims Under 35 U.S.C. § 102

In the Office Action, claims 1, 30, and 40 were rejected under pre-AIA 35 U.S.C. § 102(b) as being anticipated by U.S. Patent Publication No. 2003/0071075 to Frankenbach et al. (hereinafter "Frankenbach"). However, for at least the reasons set forth below, the present claims patentably define over Frankenbach.

The Office Action cites to Example 14 of Frankenbach in suggesting that Frankenbach teaches the limitations of at least claim 1. Example 14 of Frankenbach discloses a composition containing 1.5 wt. % of zinc chloride and 0.015 wt. % of Proxel GXL. However, Applicant respectfully submits that the weight ratio of the isothiazolin-3-one in the Proxel GXL to the zinc chloride is well below the weight ratio range of from 1:100 to 100:1 as presently claimed.

As indicated in the attached material safety data sheet, Proxel GXL contains a maximum of 19.9 wt.% of 1,2-benzisothiazolin-3-one. Accordingly, Example 14 contains 0.002985 wt.% (0.015 wt.% \* 0.199) of 1,2-benzisothiazolin-3-one and 1.5 wt.% of zinc chloride resulting in a weight ratio of the 1,2-benzisothiazolin-3-one to the zinc chloride of 0.00199, well below the minimum weight ratio of 0.01. Therefore, Applicant respectfully submits that Frankenbach fails to teach the limitations of at least independent claim 1.

For at least the reasons set forth above, the present claims patentably define over Frankenbach. Therefore, Applicant respectfully requests withdrawal of the present rejection under pre-AIA 35 U.S.C. § 102(b).

IV. Rejection of Claims Under 35 U.S.C. § 103

In the Office Action, claims 1, 3, 17, 19, 21, 24, 29, 31, 35, 39, 40, 41, 42, 45, 46, 53, 54, 57, and 58, including independent claims 1 and 17, were rejected under pre-AIA 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent Application Publication No. 2005/0101487 to Beilfuss et al. (hereinafter "Beilfuss"). However, for at least the reasons set forth above, Applicant respectfully submits that the pending claims patentably define over Beilfuss.

Applicant respectfully submits that an alleged prima facie case of obviousness can be rebutted by demonstrating that the claimed composition exhibits synergistic properties. In this regard, Applicant respectfully submits that the presently claimed composition exhibits synergistic properties and therefore renders the presently claimed composition nonobvious in view of the prior art.

In particular, Applicant respectfully presents experimental data to demonstrate such synergistic behavior and directs the Examiner's attention to the declarations submitted on May 2, 2016 and May 5, 2016. In particular, the declarations are from Mr. Scott A. Brown and Ms. Helen Hyde and describe the experimental studies conducted on compositions containing at least one isothiazolin-3-one, in particular 1,2-benzisothiazolin-3-one, and either zinc oxide or zinc chloride, respectively.

According to the declaration of Mr. Scott A. Brown, the samples employing 1,2-benzisothiazolin-3-one and zinc oxide exhibit a synergistic effect as evidenced by the reduction in contamination even after a 5<sup>th</sup> challenge. According to the declaration of Ms. Helen Hyde, the samples employing both 1,2-benzisothiazolin-3-one and zinc chloride exhibit a synergistic effect as evidenced by the FIC values.

Applicant respectfully submits that the potentiation effects observed are surprising and not disclosed or suggested by any of the prior art references. Thus, Applicant

respectfully submits that such synergistic behavior renders the presently claimed composition nonobvious in view of the prior art.

For at least the reasons set forth above, Applicant respectfully submits that the present claims patentably define over Beilfuss. Therefore, Applicant respectfully requests withdrawal of the present rejection under pre-AIA 35 U.S.C. § 103.

V. Conclusion

In summary, Applicant respectfully submits that the presently pending claims are in complete condition for allowance. However, should any issues remain after consideration of this response, then Examiner Soroush is invited and encouraged to telephone the undersigned at his convenience.

Please charge any fees required by this response and credit any overpayment to Deposit Account No. 04-1403.

Respectfully submitted,  
DORITY & MANNING, P.A.

February 20, 2017  
Date

/anand k. patel/  
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Facsimile: 864-233-7342

# MATERIAL SAFETY DATA SHEET

## SECTION 1: PRODUCT and COMPANY IDENTIFICATION

Arch Chemicals, Inc.

501 Merritt 7 PO Box 5204

Norwalk, CT 06856-5204

For MSDS Questions: 1-800-511-MSDS

Emergency telephone: (800) 654-6911

Issue Date: 06/05/2006

MSDS No.: 150000020211

Rev: W

PC:

For a transport accident or leak, fire or major spill, call **CHEMICAL EMERGENCY RESPONSE CENTER** (800) 424-9300.

Material Name: PROXEL GXL

*Read the entire MSDS for a complete hazard assessment.*

## SECTION 2: COMPOSITION/INFORMATION on INGREDIENTS\*

CAS Number	% Conc.*	Ingredient Name
025265-71-8	50-60	Dipropylene glycol
007732-18-5	10-20	Water
002634-33-5	18.8-19.9	1,2-Benzisothiazolin-3-one
001310-73-2	5-7	Sodium hydroxide

\*Ingredients not precisely identified are either proprietary or nonhazardous.

Values are not product specifications. \*Percent concentration by weight.

## SECTION 3: HAZARDS IDENTIFICATION\*

\*As defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.  
See Section 8 for exposure guidelines & Section 11 for toxicology and ingredient specific information.

### \*\*\*\*\* EMERGENCY OVERVIEW \*\*\*\*\*

-----  
BROWN LIQUID. SLIGHT ODOR.  
RESPIRATORY IRRITANT.  
EYE CORROSIVE. CORROSIVE TO THE  
GASTROINTESTINAL TRACT. SKIN CORROSIVE.  
SKIN SENSITIZER.  
-----

\*\*\*\*\*

### POTENTIAL HEALTH HAZARDS

Eye: This product is probably eye corrosive based on animal studies.

Skin: This product is skin corrosive based on animal studies.  
This product may induce skin sensitization in humans.

## MSDS (continued) PROXEL GXL

- Inhalation: Vapors and/or aerosols of this material will probably irritate mucous membranes, eyes, nose, and respiratory passages.
- Ingestion: This material will probably cause chemical burns of the mouth, pharynx, esophagus, and stomach in humans, following ingestion of this material. Injury may be severe and cause death. The acute oral toxicity of this material is between 500 and 5000 mg/kg. Relative to other materials, this material is classified as slightly toxic by ingestion.
- Other: 1,2-Benzisothiazolin-3-one: The biocide component can induce skin sensitization.

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**SECTION 4: FIRST AID MEASURES**

---

## General First Aid Procedures

## Eyes:

Immediately flush the eyes with large quantities of running water for a minimum of 15 minutes. Hold the eyelids apart during the flushing to ensure rinsing of the entire surface of the eye and lids with water. Do not attempt to neutralize with chemical agents. Obtain medical attention as soon as possible. Oils or ointments should not be used at this time. Continue the flushing for an additional 15 minutes if a physician is not immediately available.

## Skin:

Remove contaminated clothing and footwear while under a safety shower. Wash off of skin with plenty of soap and water. Get medical attention. Wash contaminated clothing and decontaminate footwear before reuse.

## Ingestion:

DO NOT INDUCE VOMITING. Give one or two glasses of water to drink and refer to medical personnel or take direction from either a physician or a poison control center. Never give anything by mouth to an unconscious person.

## Inhalation:

Remove victim to fresh air. If a cough or other respiratory symptoms develop, consult medical personnel.

## Note to Physician:

Mucosal injury following ingestion of this potentially corrosive material contraindicates the induction of vomiting.

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**SECTION 5: FIRE FIGHTING MEASURES**

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## Flammable Properties

Flash Point: > 200°F, 93°C Method: Seta Flash Closed Tester  
Upper Flammability Limit (UFL): No Data  
Lower Flammability Limit (LFL): No Data  
Autoignition Temperature: No Data

MSDS (continued) **PROXEL GXL**

Products of combustion:

Combustion products: Carbon oxides, nitrogen oxides, sulfur oxides, ammonia.

Extinguishing media:

Water fog, foam, carbon dioxide, dry chemical, halogenated agents.

Fire fighting instructions:

Wear self-contained breathing apparatus with full facepiece and full protective clothing. If contact occurs with material or its solutions, immediately flush with water and remove contaminated clothing.

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**SECTION 6: ACCIDENTAL RELEASE MEASURES**

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Spill procedures:

Wear skin, eye, and respiratory protection during cleanup.

Contain spill.

Soak up material with absorbent and shovel into a chemical waste container.

Keep out of sewers and drains.

Do not discharge effluent containing this product into lakes, streams, ponds, estuaries, oceans or other waters unless in accordance with the requirements of a National Pollution Discharge Elimination System (NPDES) permit and the permitting authority has been notified in writing prior to discharge. Do not discharge effluent containing this product to sewer systems without previously notifying the local sewage treatment plant authority. For guidance, contact your State Water Board or Regional Office of the EPA. Do not contaminate water by cleaning of equipment or disposal of wastes.

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**SECTION 7: HANDLING and STORAGE**

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Handling:

Use closed handling and dispensing systems whenever possible. When open handling and dispensing procedures must be used, precautions should be in place to ensure no skin contact will occur. Do not create aerosols.

Avoid breathing vapors or aerosols.

Prevent skin and eye contact.

Observe recommended exposure limits.

Workers should shower and change to fresh clothing after each shift.

A sensitized individual should not be exposed to the product which caused the sensitization.

Storage:

Do not store near feed, food, or within the reach of children.

Keep container tightly sealed. Store in a cool, well ventilated area away from heat, sources of ignition, direct sunlight, and strong oxidizing agents, acids.

Corrodes mild steel, aluminum, copper, and other metals.

## MSDS (continued) PROXEL GXL

**SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**

## Exposure guidelines:

No ACGIH TLV or OSHA PEL is assigned to this mixture. Control of exposure to below the PEL for the ingredients may not be sufficient. Minimize exposure in accordance with good hygiene practice.

1,2-Benzisothiazolin-3-one: Arch Chemicals, Inc. Biocides has adopted an Occupational

Exposure Limit of 0.1 mg/m<sup>3</sup> for 1,2-Benzisothiazolin-3-one.

Sodium hydroxide: The ACGIH STEL for sodium hydroxide is 2 mg/m<sup>3</sup>, 8-hour TWA, ceiling. The OSHA PEL for sodium hydroxide is 2 mg/m<sup>3</sup>, 8-hour TWA.

## Engineering controls:

Use permitted ventilation adequate to maintain safe levels.

## PROTECTIVE EQUIPMENT

## Respiratory protection:

If needed, use NIOSH certified full facepiece respirator for mists.

## Protective clothing:

Take all precautions to prevent skin contact. Use gloves, arm covers and apron determined to be impervious under the conditions of use. Additional protection, such as full body suit and boots, may be required depending on conditions.

Remove contaminated clothing and wash before rewearing.

Wash separately from other laundry.

## Eye protection:

Chemical tight goggles and full faceshield.

## Other:

Eyewash station and safety shower in work area.

**SECTION 9: PHYSICAL and CHEMICAL PROPERTIES**

Physical State: Liquid

Appearance: Brown

Odor: Slight

Odor Threshold: No Data

Boiling Point: 212°F, 100°C

Decomposition Temperature: No Data

Melting Point: No Data

Vapor Pressure (mm Hg at 20°C):  $4.35 \times 10^{-7}$  (for 1,2-Benzisothiazolin-3-one)

Vapor Density (air = 1): No Data

Solubility in Water: Soluble

Solubility in Other: No Data

Octanol/Water Partition Coefficient: No Data

pH: 13.90 at 25°C

Specific Gravity: ~ 1.13 @ 25°C/25°C

Bulk Density: No Data

% Volatile by Volume: 12

VOC (%): No Data

Viscosity: 500.0 approx. (cps)

MSDS (continued) **PROXEL GXL**

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**SECTION 10: STABILITY and REACTIVITY**

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Chemical Stability

Stable under normal conditions.

Conditions to avoid:

Corrodes mild steel, aluminum, copper, and other metals.

Incompatibility:

Strong oxidizing agents, acids.

Hazardous polymerization:

Not known to occur.

Hazardous decomposition products:

Carbon oxides, nitrogen oxides, sulfur oxides, ammonia.

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**SECTION 11: TOXICOLOGICAL INFORMATION**

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Contact the addressee in Section 1 for product toxicology information.

Other effects of overexposure:

1,2-Benzisothiazolin-3-one: BIT, the biocidal active ingredient used in this product, has the potential to induce human skin sensitization. However, based collectively on several patch test studies and our experience, formulations which contain no more than 500 ppm BIT are unlikely to induce skin sensitization.

Regulated carcinogen(s):

This product contains no components present at concentrations equal to or greater than 0.1% listed by IARC, OSHA, NTP or ACGIH as a carcinogen.

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**SECTION 12: ECOLOGICAL INFORMATION**

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Ecotoxicity:

The biocidal active ingredient, BIT, is toxic to fish (96hr LC50s 5-50 mg/L) and very toxic to algae (72hr EC50 0.37 mg/L).

Environmental fate:

BIT is not likely to bioaccumulate; there is evidence of photodegradation in water and soil.

Other:

BIT is broken down in sewage treatment at concentrations <5ppm.

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**SECTION 13: DISPOSAL CONSIDERATIONS**

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Disposal method:

In Canada, observe all applicable Canadian regulations.

PROXEL® GXL is toxic to fish and spills must be detoxified by biological or chemical means. Aerobic sewage treatment organisms will metabolize the active ingredient in concentrations of less than 5 ppm (25 ppm PROXEL® GXL). The half-life in an aerobic sewage treatment plant is about 50 minutes. The metabolites are not toxic to fish.

MSDS (continued) **PROXEL GXL**

Spills of more than 100 kg should be detoxified by the following chemical procedure:

1. Neutralize spill by adding 3 gallons of 10% (wt./wt.) sodium bisulfite solution per pound of spilled material. The 10% solution of sodium bisulfite can be prepared by mixing 1 part of sodium metabisulfite with 9 parts of cold water and stirring for 15 minutes until dissolution is complete. The pH of the sodium bisulfite solution should be adjusted to 6.5 by adding 1M sodium hydroxide. Refer to the manufacturer's MSDS for information on the hazards and proper use of sodium metabisulfite and sodium hydroxide.

2. Test for completion of the reaction by using 10013 Merckoquant Sulfite Test Strips. The reaction is complete when excess bisulfite can be detected. If bisulfite cannot be detected, add 20% of the original volume of the deactivating solution used, wait 20 minutes and repeat the test.

It is recommended that spill cleanup waste be fully evaluated to ensure proper disposal.

## Container disposal:

Empty container retains product residue. Observe all hazard precautions. Do not distribute, make available, furnish or reuse empty container except for storage and shipment of original product. Remove all product residue from container using appropriate solvents (e.g. triple rinsing). Then offer for recycling/ reconditioning or puncture or otherwise destroy empty container before disposal.

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**SECTION 14: TRANSPORT INFORMATION**

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This material is regulated by the US DOT.

Proper Shipping Name is: CORROSIVE LIQUID, N.O.S. (CONTAINS SODIUM HYDROXIDE & 1,2-BENZISOTHIAZOLIN-3-ONE)

UN ID Number is: 1760

Special Provisions: No Data

Hazard Class: 8.0

Additional Hazard Class: No Data

Additional Hazard Class: No Data

Hazard Packing Group: 2

Marine Pollutant: Yes

## DOT Hazard Information

Explosive: No

Explosive Class: No Data Description: No Data

Skin Corrosive: Yes

Metal Corrosive: Yes

Poisonous: No

Air (IATA): UN1760, CORROSIVE LIQUID, N.O.S. (CONTAINS SODIUM HYDROXIDE & 1,2-BENZISOTHIAZOLIN-3-ONE), 8, II, Marine Pollutant

Water (IMDG): UN1760, CORROSIVE LIQUID, N.O.S. (CONTAINS SODIUM HYDROXIDE & 1,2-BENZISOTHIAZOLIN-3-ONE), 8, II, Marine Pollutant

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**SECTION 15: REGULATORY INFORMATION**

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## TSCA (Toxic Substances Control Act):

This product is a FIFRA-regulated pesticide and is exempt from TSCA regulation. Do not use for other purposes.

## SARA Title III (Emergency Planning and Community Right-To-Know Act):

## 313 Reportable ingredients:

This product does not contain any chemicals subject to the reporting requirements of SARA Section 313.

MSDS (continued) **PROXEL GXL**

## Canadian Regulations:

CEPA (Canadian Environmental Protection Act): All ingredients are on the DSL (Domestic Substances List).

## WHMIS Classifications:

PRODUCT USE: MICROBIOSTAT SOLUTION - INDUSTRIAL PRODUCT

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all of the information required by the CPR.

Class E -- Corrosive material (CPR62).

Class D, Division 2B, Toxic.

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**SECTION 16: OTHER INFORMATION**

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We assigned NFPA and HMIS ratings to this product based on the hazards of its ingredient(s). Because the customer is most aware of the application of the product, he must ensure that the proper personal protective equipment (PPE) is provided consistent with information contained in the product MSDS.\*

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NFPA Rating:

Health: 3  
Fire: 1  
Reactivity: 0  
Special: No Data

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HMIS Rating:

Health: 3  
Fire: 1  
Reactivity: 0

\*\*Personal Protection: No Data

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\*This information is intended solely for the use of individuals trained in the particular hazard rating system.

\*\*See appropriate MSDS section.

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Revision status:

Revision date: 6/05/2006  
Supersedes: 4/12/2005  
Sections Revised: 14

The information herein is given in good faith  
but no warranty, expressed or implied, is made.

Prepared by: EL

Approved by: TLW/KRB/SP/MB

Approval date: 07/03/01

THE PRODUCT NAMES LISTED ARE TRADEMARKS OF ARCH CHEMICALS, INC. OR ITS AFFILIATED COMPANIES.

The information herein is given in good faith but no warranty, expressed or implied, is made.

This MSDS was prepared by the Safety, Health and Environment Group of at 501 Merritt, Norwalk, CT 06856. For further questions, call during regular business hours at 1-800-511-MSDS.

**LISTING OF CLAIMS**

1. (Currently Amended) An antimicrobial composition comprising:
  - (a) at least one isothiazolin-3-one selected from the group consisting of 1,2-benzisothiazolin-3-one, N-(n-butyl)-1,2-benzisothiazolin-3-one, and combinations thereof; and
  - (b) at least one zinc compound ~~selected from the group consisting of comprising~~ zinc chloride, ~~zinc sulfide, zinc carbonate, zinc oxide, zinc hydroxide, and or a combination~~[[s]] thereof;wherein ~~said the~~ isothiazolin-3-one is present in an amount of from 1 to 500 ppm, wherein the zinc compound is present in an amount of from 5 to 200,000 ppm, and wherein the weight ratio of the isothiazolin-3-one to the zinc compound is from 1:100 to 100:1.
2. (Cancelled)
3. (Original) The composition of claim 1 wherein component (a) is present in an amount of from 5 to 500 ppm, and component (b) is present in an amount of from 5 to 500 ppm.
- 4-9. (Cancelled)
10. (Currently Amended) A functional fluid composition comprising:
  - a polymer emulsion; and
  - a wet state preservative comprising an antimicrobial composition comprising
    - at least one isothiazolin-3-one selected from the group consisting of 1,2-benzisothiazolin-3-one, N-(n-butyl)-1,2-benzisothiazolin-3-one, and combinations thereof, and
    - at least one zinc compound ~~selected from the group consisting of comprising~~ zinc chloride, ~~zinc sulfide, zinc carbonate, zinc oxide, zinc hydroxide, and or a combination~~[[s]] thereof,wherein the isothiazolin-3-one is present in an amount of from 1 to 500 ppm, wherein the zinc compound is present in an amount of from 5 to 200,000 ppm, and wherein the weight ratio of the isothiazolin-3-one to the zinc compound is from 1:100 to 100:1wherein ~~said wet state preservative is present in said fluid composition in a total amount from about 10 ppm to about 400 ppm, and wherein the molar ratio of the at least one isothiazolin-3-one to the at least one zinc compound is from about 4:1 and about 1:2.~~
- 11-14. (Cancelled)

15. (Original) The composition of claim 10 which further comprises a co-biocide selected from the group consisting of pyrrithione salts, pyrrithione acids, and combinations thereof, and wherein said co-biocide is present in said composition in an amount of from about 0.001 to about 1.0% w/w based on the total weight of said composition.

16. (Original) The composition of claim 15 wherein said pyrrithione salts are selected from the group consisting of copper pyrrithione, zinc pyrrithione, sodium pyrrithione, and combinations thereof.

17. (Currently Amended) A coating composition comprising:  
a base medium selected from the group consisting of paints, adhesives, sealants, caulks, mineral and pigment slurries, printing inks, agricultural pesticide formulations, household coating products, personal care products, metal working fluids, and combinations thereof; and

a wet state preservative comprising an antimicrobial composition comprising  
at least one isothiazolin-3-one selected from the group consisting of 1,2-benzisothiazolin-3-one, N-(n-butyl)-1,2-benzisothiazolin-3-one, and combinations thereof, and  
at least one zinc compound ~~selected from the group consisting of~~  
comprising zinc chloride, zinc sulfide, zinc carbonate, zinc oxide, zinc hydroxide, and or a  
combination[[s]] thereof,

wherein the isothiazolin-3-one is present in an amount of from 1 to 500 ppm,  
wherein the zinc compound is present in an amount of from 5 to 200,000 ppm,  
and

wherein the weight ratio of the isothiazolin-3-one to the zinc compound is from  
1:100 to 100:1

~~wherein said wet state preservative is present in said coating composition in a total amount from about 10 ppm to about 400 ppm, and wherein the molar ratio of the at least one isothiazolin-3-one and the at least one zinc compound is from about 4:1 to about 1:2.~~

18. (Cancelled)

19. (Currently Amended) An antimicrobial composition comprising:  
(a) 1,2-benzisothiazolin-3-one;  
(b) zinc oxide; and  
wherein said the isothiazolin-3-one is present in an amount from 1 to 500 ppm,  
wherein the zinc oxide is present in an amount from 5 to 200,000 ppm, and  
wherein the weight ratio of the isothiazolin-3-one to the zinc oxide is from 1:100 to 100:1.

20. (Cancelled)
21. (Previously Presented) The antimicrobial composition of claim 19 wherein component (a) is present in an amount of from 5 to 500 ppm, and component (b) is present in an amount of from 5 to 500 ppm.
- 22-23. (Cancelled)
24. (Previously Presented) The antimicrobial composition of claim 19 which further comprises a co-biocide selected from the group consisting of pyrithione salts, pyrithione acids, and combinations thereof, and wherein said co-biocide is present in said composition in an amount of from about 0.001 to about 1% w/w based on the total weight of said composition.
- 25-28. (Cancelled)
29. (Previously Presented) The antimicrobial composition of claim 1, wherein the at least one zinc compound is zinc oxide.
30. (Currently Amended) The antimicrobial composition of claim 1, wherein the at least one zinc compound is zinc chloride.
31. (Previously Presented) The antimicrobial composition of claim 1, wherein the composition further comprises a co-biocide selected from the group consisting of pyrithione salts, pyrithione acids, and combinations thereof.
32. (Cancelled)
33. (Previously Presented) The functional fluid composition of claim 10, wherein the at least one zinc compound is zinc oxide.
34. (Currently Amended) The functional fluid composition of claim 10, wherein the at least one zinc compound is zinc chloride.
35. (Previously Presented) The coating composition of claim 17, wherein the at least one zinc compound is zinc oxide.
36. (Currently Amended) The coating composition of claim 17, wherein the at least one zinc compound is zinc chloride.
37. (Cancelled)
38. (Previously Presented) The antimicrobial composition of claim 1, the composition consisting of the at least one isothiazolin-3-one, the at least one zinc compound, optionally at least one polymer base medium, and optionally a co-biocide.
39. (Previously Presented) The antimicrobial composition of claim 19 wherein the composition further comprises zinc pyrithione.
40. (Previously Presented) The antimicrobial composition of claim 1, wherein the composition comprises 1,2-benzisothiazolin-3-one and zinc chloride.

41. (Previously Presented) The antimicrobial composition of claim 29, wherein the composition further comprises a co-biocide selected from the group consisting of pyrrithione salts, pyrrithione acids, and combinations thereof.

42. (Previously Presented) The antimicrobial composition of claim 41, wherein the pyrrithione salt comprises zinc pyrrithione.

43. (Previously Presented) The antimicrobial composition of claim 30, wherein the composition further comprises a co-biocide selected from the group consisting of pyrrithione salts, pyrrithione acids, and combinations thereof.

44. (Previously Presented) The antimicrobial composition of claim 43, wherein the pyrrithione salt comprises zinc pyrrithione.

45. (Previously Presented) The antimicrobial composition of claim 1, wherein the composition further comprises a pyrrithione salt selected from the group consisting of copper pyrrithione, zinc pyrrithione, sodium pyrrithione, and combinations thereof.

46. (Previously Presented) The antimicrobial composition of claim 45, wherein the pyrrithione salt comprises zinc pyrrithione.

47. (Previously Presented) The composition of claim 15, wherein the pyrrithione salt comprises zinc pyrrithione.

48. (Previously Presented) The composition of claim 33, wherein the composition further comprises a co-biocide selected from the group consisting of pyrrithione salts, pyrrithione acids, and combinations thereof.

49. (Previously Presented) The composition of claim 48, wherein the pyrrithione salt comprises zinc pyrrithione.

50. (Previously Presented) The composition of claim 34, wherein the composition further comprises a co-biocide selected from the group consisting of pyrrithione salts, pyrrithione acids, and combinations thereof.

51. (Previously Presented) The composition of claim 50, wherein the pyrrithione salt comprises zinc pyrrithione.

52. (Previously Presented) The composition of claim 10, wherein the composition further comprises a pyrrithione salt selected from the group consisting of copper pyrrithione, zinc pyrrithione, sodium pyrrithione, and combinations thereof.

53. (Previously Presented) The composition of claim 35, wherein the composition further comprises a co-biocide selected from the group consisting of pyrrithione salts, pyrrithione acids, and combinations thereof.

54. (Previously Presented) The composition of claim 53, wherein the pyrrithione salt comprises zinc pyrrithione.

55. (Previously Presented) The composition of claim 36, wherein the composition further comprises a co-biocide selected from the group consisting of pyrrithione salts, pyrrithione acids, and combinations thereof.

56. (Previously Presented) The composition of claim 55, wherein the pyrrithione salt comprises zinc pyrrithione.

57. (Previously Presented) The composition of claim 17, wherein the composition further comprises a pyrrithione salt selected from the group consisting of copper pyrrithione, zinc pyrrithione, sodium pyrrithione, and combinations thereof.

58. (Previously Presented) The composition of claim 57, wherein the pyrrithione salt comprises zinc pyrrithione.

59. (Previously Presented) The composition of claim 19, wherein the composition further comprises a pyrrithione salt selected from the group consisting of copper pyrrithione, sodium pyrrithione, and combinations thereof.

60. (New) A functional fluid composition comprising:  
a polymer emulsion; and  
a wet state preservative comprising an antimicrobial composition comprising  
at least one isothiazolin-3-one selected from the group consisting of 1,2-benzisothiazolin-3-one, N-(n-butyl)-1,2-benzisothiazolin-3-one, and combinations thereof, and  
at least one zinc compound comprising zinc chloride, zinc sulfide, zinc carbonate, zinc oxide, zinc hydroxide, or a combination thereof,  
wherein the wet state preservative is present in the fluid composition in a total amount from about 10 ppm to about 400 ppm, and  
wherein the molar ratio of the at least one isothiazolin-3-one to the at least one zinc compound is from about 4:1 and about 1:2.

<b>PATENT APPLICATION FEE DETERMINATION RECORD</b> Substitute for Form PTO-875	Application or Docket Number <b>11/805,779</b>	Filing Date <b>05/24/2007</b>	<input type="checkbox"/> To be Mailed
---	---	----------------------------------	---------------------------------------

ENTITY: ☒ LARGE ☐ SMALL ☐ MICRO

**APPLICATION AS FILED – PART I**

(Column 1)

(Column 2)

FOR	NUMBER FILED	NUMBER EXTRA		RATE (\$)	FEE (\$)
<input type="checkbox"/> BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A		N/A	
<input type="checkbox"/> SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A		N/A	
<input type="checkbox"/> EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A		N/A	
TOTAL CLAIMS (37 CFR 1.16(i))	minus 20 =	*		X \$ =	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*		X \$ =	
<input type="checkbox"/> APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$310 (\$155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).				
<input type="checkbox"/> MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))					
				TOTAL	

\* If the difference in column 1 is less than zero, enter "0" in column 2.

**APPLICATION AS AMENDED – PART II**

(Column 1)

(Column 2)

(Column 3)

	02/20/2017	CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA		RATE (\$)	ADDITIONAL FEE (\$)
AMENDMENT	Total (37 CFR 1.16(i))	* 39	Minus	** 38	= 1		x \$80 =	80
	Independent (37 CFR 1.16(h))	* 5	Minus	*** 7	= 0		x \$420 =	0
	<input type="checkbox"/> Application Size Fee (37 CFR 1.16(s))							
	<input type="checkbox"/> FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							
							TOTAL ADD'L FEE	<b>80</b>

(Column 1)

(Column 2)

(Column 3)

		CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA		RATE (\$)	ADDITIONAL FEE (\$)
AMENDMENT	Total (37 CFR 1.16(i))	*	Minus	**	=		X \$ =	
	Independent (37 CFR 1.16(h))	*	Minus	***	=		X \$ =	
	<input type="checkbox"/> Application Size Fee (37 CFR 1.16(s))							
	<input type="checkbox"/> FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							
							TOTAL ADD'L FEE	

\* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.

\*\* If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".

\*\*\* If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".

The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.

LIE  
KAREN WASHINGTON

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.



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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
11/805,779	05/24/2007	Nicholas Edward Thompson	LZA-15	3981

22827 7590 02/21/2017  
DORITY & MANNING, P.A.  
POST OFFICE BOX 1449  
GREENVILLE, SC 29602-1449

EXAMINER
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SOROUGH, ALI

ART UNIT	PAPER NUMBER
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1617

MAIL DATE	DELIVERY MODE
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02/21/2017

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b><i>Applicant-Initiated Interview Summary</i></b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	11/805,779	THOMPSON ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	ALI SOROUGH	1617	

All participants (applicant, applicant's representative, PTO personnel):

(1) ALI SOROUGH. (3)\_\_\_\_\_.

(2) Anand Patel. (4)\_\_\_\_\_.

Date of Interview: 17 February 2017.

Type: ☒ Telephonic ☐ Video Conference  
☐ Personal [copy given to: ☐ applicant ☐ applicant's representative]

Exhibit shown or demonstration conducted: ☐ Yes ☐ No.

If Yes, brief description: \_\_\_\_\_.

Issues Discussed ☐101 ☐112 ☒102 ☒103 ☐Others

(For each of the checked box(es) above, please describe below the issue and detailed description of the discussion)

Claim(s) discussed: 1, 3, 10, 15-17, 19, 21, 24, 29-31, 33-36, and 38-59.

Identification of prior art discussed: Frankenbach et al. (US Patent Application Publication 2003/0071075 A1, Published 04/17/2003).

#### Substance of Interview

(For each issue discussed, provide a detailed description and indicate if agreement was reached. Some topics may include: identification or clarification of a reference or a portion thereof, claim interpretation, proposed amendments, arguments of any applied references etc...)

Applicant argued that Proxel GL which the Examiner has relied on to teach that composition comprises BIT is actually a solution of BIT, where the amount of BIT in the solution is about 20%. Therefore, the amount of BIT present in the preferred composition of the prior art is actually 0.003% and would give a ratio 1:500 to the zinc compound. A 1:500 is far outside the range of the instant limitation and does not anticipate the instant claims. The Examiner agreed that provided with such evidence the 102 rejection would be withdrawn.

Applicant also suggested that claims that have not already been indicated as allowable would be amended to limit the zinc compound to zinc oxide and/or zinc chloride. Thereby, the claims would be commensurate in scope with the unexpected results presented in the affidavits filed on 05/02/2016 and 05/05/2016. The Examiner agreed that this would overcome the rejection of record.

Applicant also wanted to know if changing the scope of the claims already indicated as allowable to a ratio of 1:100 to 100:1 would make the claims unpatentable. The Examiner indicated that a new search would be necessary to ensure that there would be no prior art that would read on such a composition. However, the Examiner noted that the reason for allowance was that there prior art was free of a teaching or suggestion of a polymer emulsion composition comprising the zinc compound and the benzisothiazolin-3-one.

**Applicant recordation instructions:** The formal written reply to the last Office action must include the substance of the interview. (See MPEP section 713.04). If a reply to the last Office action has already been filed, applicant is given a non-extendable period of the longer of one month or thirty days from this interview date, or the mailing date of this interview summary form, whichever is later, to file a statement of the substance of the interview

**Examiner recordation instructions:** Examiners must summarize the substance of any interview of record. A complete and proper recordation of the substance of an interview should include the items listed in MPEP 713.04 for complete and proper recordation including the identification of the general thrust of each argument or issue discussed, a general indication of any other pertinent matters discussed regarding patentability and the general results or outcome of the interview, to include an indication as to whether or not agreement was reached on the issues raised.

☐ Attachment

/ALI SOROUSH/ Primary Examiner, Art Unit 1617	
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U.S. Patent and Trademark Office  
PTOL-413 (Rev. 8/11/2010)

**Interview Summary**

Paper No. 20170217

**Summary of Record of Interview Requirements****Manual of Patent Examining Procedure (MPEP), Section 713.04, Substance of Interview Must be Made of Record**

A complete written statement as to the substance of any face-to-face, video conference, or telephone interview with regard to an application must be made of record in the application whether or not an agreement with the examiner was reached at the interview.

**Title 37 Code of Federal Regulations (CFR) § 1.133 Interviews**

Paragraph (b)

In every instance where reconsideration is requested in view of an interview with an examiner, a complete written statement of the reasons presented at the interview as warranting favorable action must be filed by the applicant. An interview does not remove the necessity for reply to Office action as specified in §§ 1.111, 1.135. (35 U.S.C. 132)

37 CFR §1.2 Business to be transacted in writing.

All business with the Patent or Trademark Office should be transacted in writing. The personal attendance of applicants or their attorneys or agents at the Patent and Trademark Office is unnecessary. The action of the Patent and Trademark Office will be based exclusively on the written record in the Office. No attention will be paid to any alleged oral promise, stipulation, or understanding in relation to which there is disagreement or doubt.

The action of the Patent and Trademark Office cannot be based exclusively on the written record in the Office if that record is itself incomplete through the failure to record the substance of interviews.

It is the responsibility of the applicant or the attorney or agent to make the substance of an interview of record in the application file, unless the examiner indicates he or she will do so. It is the examiner's responsibility to see that such a record is made and to correct material inaccuracies which bear directly on the question of patentability.

Examiners must complete an Interview Summary Form for each interview held where a matter of substance has been discussed during the interview by checking the appropriate boxes and filling in the blanks. Discussions regarding only procedural matters, directed solely to restriction requirements for which interview recordation is otherwise provided for in Section 812.01 of the Manual of Patent Examining Procedure, or pointing out typographical errors or unreadable script in Office actions or the like, are excluded from the interview recordation procedures below. Where the substance of an interview is completely recorded in an Examiners Amendment, no separate Interview Summary Record is required.

The Interview Summary Form shall be given an appropriate Paper No., placed in the right hand portion of the file, and listed on the "Contents" section of the file wrapper. In a personal interview, a duplicate of the Form is given to the applicant (or attorney or agent) at the conclusion of the interview. In the case of a telephone or video-conference interview, the copy is mailed to the applicant's correspondence address either with or prior to the next official communication. If additional correspondence from the examiner is not likely before an allowance or if other circumstances dictate, the Form should be mailed promptly after the interview rather than with the next official communication.

The Form provides for recordation of the following information:

- Application Number (Series Code and Serial Number)
- Name of applicant
- Name of examiner
- Date of interview
- Type of interview (telephonic, video-conference, or personal)
- Name of participant(s) (applicant, attorney or agent, examiner, other PTO personnel, etc.)
- An indication whether or not an exhibit was shown or a demonstration conducted
- An identification of the specific prior art discussed
- An indication whether an agreement was reached and if so, a description of the general nature of the agreement (may be by attachment of a copy of amendments or claims agreed as being allowable). Note: Agreement as to allowability is tentative and does not restrict further action by the examiner to the contrary.
- The signature of the examiner who conducted the interview (if Form is not an attachment to a signed Office action)

It is desirable that the examiner orally remind the applicant of his or her obligation to record the substance of the interview of each case. It should be noted, however, that the Interview Summary Form will not normally be considered a complete and proper recordation of the interview unless it includes, or is supplemented by the applicant or the examiner to include, all of the applicable items required below concerning the substance of the interview.

A complete and proper recordation of the substance of any interview should include at least the following applicable items:

- 1) A brief description of the nature of any exhibit shown or any demonstration conducted,
- 2) an identification of the claims discussed,
- 3) an identification of the specific prior art discussed,
- 4) an identification of the principal proposed amendments of a substantive nature discussed, unless these are already described on the Interview Summary Form completed by the Examiner,
- 5) a brief identification of the general thrust of the principal arguments presented to the examiner,  
(The identification of arguments need not be lengthy or elaborate. A verbatim or highly detailed description of the arguments is not required. The identification of the arguments is sufficient if the general nature or thrust of the principal arguments made to the examiner can be understood in the context of the application file. Of course, the applicant may desire to emphasize and fully describe those arguments which he or she feels were or might be persuasive to the examiner.)
- 6) a general indication of any other pertinent matters discussed, and
- 7) if appropriate, the general results or outcome of the interview unless already described in the Interview Summary Form completed by the examiner.

Examiners are expected to carefully review the applicant's record of the substance of an interview. If the record is not complete and accurate, the examiner will give the applicant an extendable one month time period to correct the record.

**Examiner to Check for Accuracy**

If the claims are allowable for other reasons of record, the examiner should send a letter setting forth the examiner's version of the statement attributed to him or her. If the record is complete and accurate, the examiner should place the indication, "Interview Record OK" on the paper recording the substance of the interview along with the date and the examiner's initials.



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## NOTICE OF ALLOWANCE AND FEE(S) DUE

22827 7590 06/14/2017  
DORITY & MANNING, P.A.  
POST OFFICE BOX 1449  
GREENVILLE, SC 29602-1449

EXAMINER

SOROUGH, ALI

ART UNIT

PAPER NUMBER

1617

DATE MAILED: 06/14/2017

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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11/805,779

05/24/2007

Nicholas Edward Thompson

LZA-15

3981

TITLE OF INVENTION: ISOTHIAZOLINONE BIOCIDES ENHANCED BY ZINC IONS

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	UNDISCOUNTED	\$960	\$0	\$0	\$960	09/14/2017

**THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED. THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.**

**THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED. SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.**

### HOW TO REPLY TO THIS NOTICE:

I. Review the ENTITY STATUS shown above. If the ENTITY STATUS is shown as SMALL or MICRO, verify whether entitlement to that entity status still applies.

If the ENTITY STATUS is the same as shown above, pay the TOTAL FEE(S) DUE shown above.

If the ENTITY STATUS is changed from that shown above, on PART B - FEE(S) TRANSMITTAL, complete section number 5 titled "Change in Entity Status (from status indicated above)".

For purposes of this notice, small entity fees are 1/2 the amount of undiscounted fees, and micro entity fees are 1/2 the amount of small entity fees.

II. PART B - FEE(S) TRANSMITTAL, or its equivalent, must be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted. If an equivalent of Part B is filed, a request to reapply a previously paid issue fee must be clearly made, and delays in processing may occur due to the difficulty in recognizing the paper as an equivalent of Part B.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

**IMPORTANT REMINDER: Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.**

## PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), to: **Mail** **Mail Stop ISSUE FEE**  
**Commissioner for Patents**  
**P.O. Box 1450**  
**Alexandria, Virginia 22313-1450**  
**or Fax** **(571)-273-2885**

INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

22827 7590 06/14/2017  
**DORITY & MANNING, P.A.**  
**POST OFFICE BOX 1449**  
**GREENVILLE, SC 29602-1449**

## Certificate of Mailing or Transmission

I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO (571) 273-2885, on the date indicated below.

(Depositor's name)
(Signature)
(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
11/805,779	05/24/2007	Nicholas Edward Thompson	LZA-15	3981

TITLE OF INVENTION: ISOTHIAZOLINONE BIOCIDES ENHANCED BY ZINC IONS

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	UNDISCOUNTED	\$960	\$0	\$0	\$960	09/14/2017

EXAMINER	ART UNIT	CLASS-SUBCLASS
SOROUGH, ALI	1617	424-401000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

- ☐ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.
- ☐ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. **Use of a Customer Number is required.**

2. For printing on the patent front page, list

- (1) The names of up to 3 registered patent attorneys or agents OR, alternatively, 1 \_\_\_\_\_
- (2) The name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed. 2 \_\_\_\_\_
- 3 \_\_\_\_\_

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE

(B) RESIDENCE: (CITY and STATE OR COUNTRY)

Please check the appropriate assignee category or categories (will not be printed on the patent): ☐ Individual ☐ Corporation or other private group entity ☐ Government

4a. The following fee(s) are submitted:

- ☐ Issue Fee
- ☐ Publication Fee (No small entity discount permitted)
- ☐ Advance Order - # of Copies \_\_\_\_\_

4b. Payment of Fee(s): (Please first reapply any previously paid issue fee shown above)

- ☐ A check is enclosed.
- ☐ Payment by credit card. Form PTO-2038 is attached.
- ☐ The director is hereby authorized to charge the required fee(s), any deficiency, or credits any overpayment, to Deposit Account Number \_\_\_\_\_ (enclose an extra copy of this form).

5. Change in Entity Status (from status indicated above)

- ☐ Applicant certifying micro entity status. See 37 CFR 1.29
- ☐ Applicant asserting small entity status. See 37 CFR 1.27
- ☐ Applicant changing to regular undiscounted fee status.

NOTE: Absent a valid certification of Micro Entity Status (see forms PTO/SB/15A and 15B), issue fee payment in the micro entity amount will not be accepted at the risk of application abandonment.

NOTE: If the application was previously under micro entity status, checking this box will be taken to be a notification of loss of entitlement to micro entity status.

NOTE: Checking this box will be taken to be a notification of loss of entitlement to small or micro entity status, as applicable.

NOTE: This form must be signed in accordance with 37 CFR 1.31 and 1.33. See 37 CFR 1.4 for signature requirements and certifications.

Authorized Signature \_\_\_\_\_

Date \_\_\_\_\_

Typed or printed name \_\_\_\_\_

Registration No. \_\_\_\_\_



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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
11/805,779	05/24/2007	Nicholas Edward Thompson	LZA-15	3981
22827 7590 06/14/2017 DORITY & MANNING, P.A. POST OFFICE BOX 1449 GREENVILLE, SC 29602-1449			EXAMINER SOROUSH, ALI	
			ART UNIT	PAPER NUMBER
			1617	
DATE MAILED: 06/14/2017				

## Determination of Patent Term Adjustment under 35 U.S.C. 154 (b) (Applications filed on or after May 29, 2000)

The Office has discontinued providing a Patent Term Adjustment (PTA) calculation with the Notice of Allowance.

Section 1(h)(2) of the AIA Technical Corrections Act amended 35 U.S.C. 154(b)(3)(B)(i) to eliminate the requirement that the Office provide a patent term adjustment determination with the notice of allowance. See Revisions to Patent Term Adjustment, 78 Fed. Reg. 19416, 19417 (Apr. 1, 2013). Therefore, the Office is no longer providing an initial patent term adjustment determination with the notice of allowance. The Office will continue to provide a patent term adjustment determination with the Issue Notification Letter that is mailed to applicant approximately three weeks prior to the issue date of the patent, and will include the patent term adjustment on the patent. Any request for reconsideration of the patent term adjustment determination (or reinstatement of patent term adjustment) should follow the process outlined in 37 CFR 1.705.

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

## OMB Clearance and PRA Burden Statement for PTOL-85 Part B

The Paperwork Reduction Act (PRA) of 1995 requires Federal agencies to obtain Office of Management and Budget approval before requesting most types of information from the public. When OMB approves an agency request to collect information from the public, OMB (i) provides a valid OMB Control Number and expiration date for the agency to display on the instrument that will be used to collect the information and (ii) requires the agency to inform the public about the OMB Control Number's legal significance in accordance with 5 CFR 1320.5(b).

The information collected by PTOL-85 Part B is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450. 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.

### Privacy Act Statement

**The Privacy Act of 1974 (P.L. 93-579)** requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

<b>Notice of Allowability</b>	<b>Application No.</b> 11/805,779	<b>Applicant(s)</b> THOMPSON ET AL.	
	<b>Examiner</b> ALI SOROUGH	<b>Art Unit</b> 1617	<b>AIA (First Inventor to File) Status</b> No

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the response filed on 02/20/2017.  
☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on \_\_\_\_\_.
2. ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on \_\_\_\_\_; the restriction requirement and election have been incorporated into this action.
3. ☒ The allowed claim(s) is/are 1, 3, 10, 15-17, 19, 21, 24, 29-31, 33-36, and 38-59 52. As a result of the allowed claim(s), you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see [http://www.uspto.gov/patents/init\\_events/pph/index.jsp](http://www.uspto.gov/patents/init_events/pph/index.jsp) or send an inquiry to PPHfeedback@uspto.gov.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

**Certified copies:**

- a) ☐ All    b) ☐ Some    \*c) ☐ None of the:
  1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.  
☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.  
**Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).**
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

- |  |  |
|--|--|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892)   | 5. <input type="checkbox"/> Examiner's Amendment/Comment                             |
| 2. <input type="checkbox"/> Information Disclosure Statements (PTO/SB/08),<br>Paper No./Mail Date _____    | 6. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| 3. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br>of Biological Material | 7. <input type="checkbox"/> Other _____.   |
| 4. <input type="checkbox"/> Interview Summary (PTO-413),<br>Paper No./Mail Date _____.                     |  |

/ALI SOROUGH/  
Primary Examiner, Art Unit 1617

### **DETAILED ACTION**

The present application is being examined under the pre-AIA first to invent provisions.

#### ***Acknowledgement of Receipt***

Applicant's response filed on 02/20/2017 to the Office Action mailed on 12/13/2016 is acknowledged.

#### ***Claim Status***

Claims 1, 3, 10, 15-17, 19, 21, 24, 29-31, 33-36, and 38-59 are pending.

Claims 2, 4-9, 11-14, 18, 20, 22, 23, 25-28, 32, and 37 were previously cancelled.

Claims 41-59 are newly added.

Claims 1, 3, 10, 15-17, 19, 21, 24, 29-31, 33-36, and 38-59 have been examined.

Claims 1, 3, 10, 15-17, 19, 21, 24, 29-31, 33-36, and 38-59 52 are allowed.

#### ***Priority***

Priority to application 60/808697 filed on 05/26/2006 is acknowledged.

***Withdrawn Claim Rejections - 35 USC § 102***

***Response to Applicant's Arguments***

The rejection of claims 1, 30, and 40 under pre-AIA 35 U.S.C. 102(b) as being anticipated by Frankenbach et al. (US Patent Application Publication 2003/0071075 A1, Published 04/17/2003) is withdrawn in view of the Amendments to the claims and Applicant arguments.

***Withdrawn Claim Rejections – 35 USC § 103***

***Response to Applicant's Arguments***

The rejection of claims 1, 3, 17, 19, 21, 24, 29, 31, 35, 39, 40, 41, 42, 45, 46, 53, 54, 57, and 58 under pre-AIA 35 U.S.C. 103(a) as being unpatentable over Beilfuss et al. (US Patent Application Publication 2005/0101487 A1, Published 05/12/2005) is withdrawn in view of the Amendments to the claims and Applicant arguments.

**REASONS FOR ALLOWANCE**

The following is an examiner's statement of reasons for allowance: the prior art lacks a teaching of a composition comprising an isothiazolin such as 1,2-benzithiazolin and N-(n-butyl)-1,2-benzithiazolin and a zinc such as zinc oxide and zinc chloride; wherein the amount of isothiazolin is 1-500ppm and zinc is 5-200,000ppm, wherein the ratio of isothiazolin to zinc is 1:100-100:1. Applicant has also shown that the combination of the instantly claimed isothiazolin and zinc compounds given an unexpectedly improved anti-microbial activity. Therefore, claims 1, 3, 10, 15-17, 19, 21, 24, 29-31, 33-36, and 38-59 52 are allowed.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ALI SOROUGH whose telephone number is (571)272-9925. The examiner can normally be reached on M, W-F (9am-7:30pm).


Examiner interviews are available via telephone, in-person, and video conferencing using a USPTO supplied web-based collaboration tool. To schedule an interview, applicant is encouraged to use the USPTO Automated Interview Request (AIR) at <http://www.uspto.gov/interviewpractice>.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Johann Richter can be reached on (571)272-0646. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1617

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/ALI SOROUGH/  
Primary Examiner, Art Unit 1617


<b>Issue Classification</b> 	<b>Application/Control No.</b> 11805779	<b>Applicant(s)/Patent Under Reexamination</b> THOMPSON ET AL.	
	<b>Examiner</b> ALI SOROUGH	<b>Art Unit</b> 1617	

CPC					
Symbol				Type	Version
A01N	59	/	16	F	2013-01-01
A01N	43	/	80	I	2013-01-01
A61K	31	/	425	I	2013-01-01
A61K	31	/	555	I	2013-01-01
A61K	33	/	30	I	2013-01-01
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CPC Combination Sets								
Symbol					Type	Set	Ranking	Version
A61K		31	/	425	I	1	1	2013-01-01
A61K		2300	/	00	A	1	2	2013-01-01
A61K		31	/	555	I	2	1	2013-01-01
A61K		2300	/	00	A	2	2	2013-01-01
A61K		33	/	30	I	3	1	2013-01-01
A61K		2300	/	00	A	3	2	2013-01-01
A01N		43	/	80	I	4	1	2013-01-01
A01N		59	/	16	I	4	2	2013-01-01
A01N		2300	/	00	A	4	3	2013-01-01


NONE		<b>Total Claims Allowed:</b> 39	
(Assistant Examiner)	(Date)		
/ALI SOROUGH/ Primary Examiner.Art Unit 1617	06/10/2017	O.G. Print Claim(s)	O.G. Print Figure
(Primary Examiner)	(Date)	1	none



<b>Issue Classification</b> 	<b>Application/Control No.</b> 11805779	<b>Applicant(s)/Patent Under Reexamination</b> THOMPSON ET AL.
	<b>Examiner</b> ALI SOROUGH	<b>Art Unit</b> 1617

<input checked="" type="checkbox"/> <b>Claims renumbered in the same order as presented by applicant</b> <input type="checkbox"/> <b>CPA</b> <input type="checkbox"/> <b>T.D.</b> <input type="checkbox"/> <b>R.1.47</b>															
Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original
1	1	17	38	33	54										
2	3	18	39	34	55										
3	10	19	40	35	56										
4	15	20	41	36	57										
5	16	21	42	37	58										
6	17	22	43	38	59										
7	19	23	44	39	60										
8	21	24	45												
9	24	25	46												
10	29	26	47												
11	30	27	48												
12	31	28	49												
13	33	29	50												
14	34	30	51												
15	35	31	52												
16	36	32	53												

NONE	<b>Total Claims Allowed:</b> 39	
(Assistant Examiner)	(Date)	
/ALI SOROUGH/ Primary Examiner.Art Unit 1617	06/10/2017	O.G. Print Claim(s) 1
(Primary Examiner)	(Date)	O.G. Print Figure none

<b>Search Notes</b>  	<b>Application/Control No.</b>  11805779	<b>Applicant(s)/Patent Under Reexamination</b>  THOMPSON ET AL.
	<b>Examiner</b>  ALI SOROUGH	<b>Art Unit</b>  1616

CPC- SEARCHED		
Symbol	Date	Examiner
A01N 59/16, 43/80	06/10/2017	AS
A61K 31/425, 31/555, 33/30	06/10/2017	AS

CPC COMBINATION SETS - SEARCHED		
Symbol	Date	Examiner
A01N 43/80, 5/16, 2300/009	06/10/2017	AS

US CLASSIFICATION SEARCHED			
Class	Subclass	Date	Examiner

SEARCH NOTES		
Search Notes	Date	Examiner
see search history printouts	06/10/2017	AS
Inventors/Assignee search PALM/EAST (Nicholas Edward Thompson, Malcom Greenhalgh, Fitzgerald Clarke, Arch Chemicals)	06/10/2017	AS

INTERFERENCE SEARCH			
US Class/ CPC Symbol	US Subclass / CPC Group	Date	Examiner
A01N	59/16, 43/80, 2300/00	06/10/2017	AS
A61K	31/425, 31/555, 33/30	06/10/2017	AS

/ALI SOROUGH/ Primary Examiner.Art Unit 1617	/ALI SOROUGH/ Primary Examiner.Art Unit 1617
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EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	3201	"1,2-benzisothiazol-3(2H)-one" Benzisothiazolinone "Benzisothiazolin-3-one" Benzisothiazolone	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/06/10 17:21
L2	513723	zinc adj (oxide chloride)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/06/10 17:21
L3	2	L1 near5 L2	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/06/10 17:21
L4	28	L1 with L2	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/06/10 17:22
L5	34	L1 same L2	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/06/10 17:23
L6	165254	A01N59/16.cpc. A01N43/80.cpc. A01N2300/00.cpc. A61K31/425.cpc. A61K31/555.cpc. A61K23/30.cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/06/10 17:58
L7	95	L6 and L1 and L2	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/06/10 17:58
S1	14532	tannic adj acid	US-PGPUB;	OR	ON	2011/03/25

			USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB			19:49
S2	14946	(tannic adj acid) (Acidum adj tannicum) (Gallotannic adj acid) (Digallic adj acid) Gallotannin Tanninum Quercitannin (Oak adj bark adj tannin) (Quercotannic adj acid) ("Querci-tannic" adj acid) ("Querco-tannic" adj acid)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/25 19:51
S3	42037	potassium adj iodide	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/25 19:52
S4	10	S2 near3 S3	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/25 19:52
S5	90	S2 with S3	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/25 20:02
S6	0	S5 same ((ascrobic adj acid) (vitamin adj "c"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/25 20:03
S7	5	S5 and ((ascrobic adj acid) (vitamin adj "c"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/25 20:03
S8	79	S5 and ((ascorbic adj acid) (vitamin adj "c"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/25 20:04
S9	73	S5 same ((ascorbic adj acid) (vitamin adj "c"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT;	OR	ON	2011/03/25 20:04

			IBM_TDB			
S10	73	S5 with ((ascorbic adj acid) (vitamin adj "c"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/25 20:04
S11	0	S5 with topical	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/25 20:08
S12	6	S5 same topical	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/25 20:08
S13	1	09/101623.app.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/27 12:37
S14	465	glycerol near3 emollient	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/27 12:43
S15	87	glycerol near emollient	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/27 12:43
S16	9	hydrogel with (xanthum adj gum)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/27 12:49
S17	34184	(benzalkonium adj chloride)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/27 12:54
S18	14	S17 with octoxyglycerin	US-PGPUB; USPAT; USOCR; FPRS; EPO;	OR	ON	2011/03/27 12:55

			JPO; DERWENT; IBM_TDB			
S19	11	octoxyglycerin with (synergy synergistic)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/27 12:55
S20	573	zinc with chondroitin	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/27 13:05
S21	10	S20 same anemia	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/27 13:05
S22	2	"5516510".pn.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/27 13:12
S23	0	(zinc adj oxide) with (isothiazilnone)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/27 13:19
S24	0	(isothiazilnone)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/27 13:19
S25	432	isothiazolin-3-one	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/27 13:20
S26	4	S25 with (zinc adj oxide)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/27 13:20
S27	12	S25 same (zinc adj oxide)	US-PGPUB; USPAT;	OR	ON	2011/03/27 13:22

			USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB			
S28	1472	benzisothiazoline	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/27 13:40
S29	161	S28 with preservative	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/27 13:41
S30	28	benzisothiazoline-3-one	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/27 13:42
S31	0	S30 with preservative	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/27 13:42
S32	0	S30 with (zinc adj oxide)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/27 13:43
S33	0	S30 same (zinc adj oxide)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/27 13:43
S34	3	S30 same zinc	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/27 13:43
S35	1994	paint with (zinc adj oxide)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/27 13:52

S36	45	(latex adj paint) with (zinc adj oxide)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/27 13:52
S37	510	(latex adj paint) with thickener	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/27 13:56
S38	367	S37 and (zinc oxide)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/27 13:56
S39	104	S37 and (zinc adj oxide)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/27 13:57
S40	2	"20060269616"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/28 10:52
S41	12	2004/0022869	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/28 11:22
S42	2	"20040022869"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/28 11:22
S43	2	"5227156".pn.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/28 12:04
S44	26	(zinc adj pyrithione) with irritant	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO;	OR	ON	2011/03/28 12:14

			DERWENT; IBM_TDB			
S45	3	(zinc adj sulfate) with dandruff	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/28 12:37
S46	156	(zinc adj sulfate) with pyrithione	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/28 12:37
S47	1	S46 same dandruff	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/28 12:38
S48	29	(zinc adj sulfate) same dandruff	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/28 12:39
S49	950	ketoconazole with pyrithione	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/28 12:44
S50	175	S49 with dandruff	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/28 12:44
S51	2	"5227156".pn.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/01/09 18:27
S52	2	"5227156".pn.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/06/17 13:53
S53	92	(polymer near3 emulsion) with shampoo	US-PGPUB; USPAT; USOCR;	OR	ON	2012/06/17 14:47

			FPRS; EPO; JPO; DERWENT; IBM_TDB			
S54	3103	benzothiazolin	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/06/17 14:53
S55	42	S54 with (acrylate (acrylic adj acid) methacrylate (polyvinyl adj acetate))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/06/17 14:54
S56	431	polish with zinc	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/06/17 15:02
S57	86	polish with (zinc adj oxide)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/06/17 15:33
S58	1120	(furniture adj polish)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/06/17 15:43
S59	3	S58 same (zinc adj oxide)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/06/17 15:43
S60	11	S55 same zinc	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/06/17 15:44
S61	1	10/498902.app.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/06/17 15:47
S62	17342	polymer adj emulsion	US-PGPUB;	OR	ON	2012/06/17

			USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB			15:52
S63	47	S62 same shampoo	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/06/17 15:53
S64	364	(polymer near3 emulsion) with zinc	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/06/17 15:54
S65	123	(polymer near3 emulsion) with (zinc adj oxide)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/06/17 15:59
S66	385	(acrylate (acrylic adj acid) methacrylate (polyvinyl adj acetate)) with shampoo	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/06/17 16:06
S67	48	(acrylate (acrylic adj acid) methacrylate (polyvinyl adj acetate)) near5 shampoo	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/06/17 16:06
S68	4251	Benzisothiazolinone "Benzisothiazolin-3-one" Benzisothiazolone "1,2- benzisothiazol-3(2H)-one" "1,2- Benzisothiazolin-3-one"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2013/07/31 13:52
S69	87	S68 near5 zinc	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2013/07/31 13:52
S70	2	"5444078".pn.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT;	OR	ON	2013/07/31 14:14

			IBM_TDB			
S71	11	S68 near5 (zinc adj (chloride oxide))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2013/07/31 14:17
S72	59	S68 with (zinc adj (chloride oxide))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2013/07/31 15:17
S73	3	S72 same polymer	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2013/07/31 15:23
S74	77	S68 with (zinc near3 (salt hydroxide))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2013/07/31 15:25
S75	1357	(zinc adj pyrrithione) with salt	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2013/07/31 15:29
S76	508	(zinc adj pyrrithione) near3 salt	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2013/07/31 15:29
S77	2	"20050101487"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2013/07/31 15:37
S78	1128	benzisothiazolin\$3one	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/02/23 15:55
S79	26	S78 same paint	US-PGPUB; USPAT; USOCR; FPRS; EPO;	OR	ON	2014/02/23 15:55

			JPO; DERWENT; IBM_TDB			
S80	71	S78 with zinc	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/02/23 15:59
S81	54	S78 with emulsion	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/02/23 16:23
S82	5	S78 near5 emulsion	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/02/23 16:23
S83	26	(acrylic near5 sheet) same (zinc adj oxide)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/02/23 16:44
S84	8	(counter adj top) same (zinc adj oxide)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/02/23 16:47
S85	20	S78 with polymer	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/02/23 16:51
S86	34	proxel with paint	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/02/23 17:00
S87	90	proxel same paint	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/02/23 17:01
S88	448	proxel same acrylic	US-PGPUB; USPAT;	OR	ON	2014/02/23 17:11

			USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB			
S89	58	(floor near3 (coating polishing)) same (zinc adj oxide)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/02/23 17:22
S90	2	(floor near3 (coating polishing)) same (pyrithione)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/02/23 18:38
S91	89	suspension near5 (anhydrous adj solvent)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/12/01 11:30
S92	3	(suspension with (anhydrous adj solvent) with (excipient carrier))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/12/01 11:32
S93	12936	(suspension with (solvent) with (excipient carrier))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/12/01 11:32
S94	1	13/987829.app.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/12/01 17:49
S95	26217	(optical adj pulses)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/12/10 12:02
S96	92	S95 with fiber with reflectors	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/12/10 12:02

S97	131	intraocular with (drug adj eluting)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/12/10 12:04
S98	375	hospital near3 scrub	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/06/02 12:16
S99	153	hospital near3 scrub	USPAT	OR	ON	2016/06/02 12:17
S100	1680	benzisothiazolin\$4one	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/12/08 14:58
S101	12	S100 near3 zinc	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/12/08 14:59
S102	35	S100 near5 zinc	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/12/08 14:59
S103	120	S100 with zinc	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/12/08 15:00
S104	129	paint with (zinc adj chloride)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/12/08 15:03
S105	7	S104 and mildew	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/12/08 15:03
S106	0	paint with pyrithione with mildewcidal	US-PGPUB; USPAT; USOCR;	OR	ON	2016/12/08 15:09

			FPRS; EPO; JPO; DERWENT; IBM_TDB			
S107	0	paint with pyrithione same mildewcidal	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/12/08 15:09
S108	451	paint with pyrithione	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/12/08 15:10
S109	0	S108 and mildewcidal	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/12/08 15:10
S110	2615	mildewcide mildewcidal	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/12/08 15:12
S111	324	S110 with paint	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/12/08 15:13
S112	6	S111 with pyrithione	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/12/08 15:13
S113	9363	metalworking	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/12/08 15:15
S114	4	S113 with mildew	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/12/08 15:15
S115	2	S113 with S110	US-PGPUB;	OR	ON	2016/12/08

			USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB			15:15
S116	27	S113 same S110	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/12/08 15:16
S117	155	(zinc adj (chloride oxide)) with S110	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/12/08 15:19
S118	0	S117 with synerg\$5	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/12/08 15:20
S119	0	S117 same synerg\$5	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/12/08 15:20
S120	5	S117 and synerg\$5	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/12/08 15:20
S121	155	S117	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/12/08 15:35
S122	2615	mildewcide mildewcidal	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/12/08 17:26
S123	155	(zinc adj (chloride oxide)) with S122	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT;	OR	ON	2016/12/08 17:26

			IBM_TDB			
S124	155	S123	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/12/08 17:26
S125	155	S124	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/12/08 17:26
S126	3	"5667795".pn.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/12/08 17:33
S127	3131	Proxel near3 GXL	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/12/08 17:48
S128	3	S127 near5 zinc	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/12/08 17:48
S129	52	S127 with zinc	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/12/08 17:49
S130	0	BIT near3 zinx	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/12/08 17:52
S131	117	BIT near3 zinc	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/12/08 17:52
S132	0	S131 NOT bits	US-PGPUB; USPAT; USOCR; FPRS; EPO;	OR	ON	2016/12/08 17:53

			JPO; DERWENT; IBM_TDB			
S133	3	"20050101487"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/12/08 17:54
S134	5	"5401757".pn.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/12/08 18:26
S135	40	paint with proxel	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/12/08 18:30
S136	18	S135 and zinc	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/12/08 18:30
S137	6684	proxel	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/12/08 18:43
S138	1	S137 near5 (zinc adj (chloride oxide sulfide sulphide carbonate hydroxide))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/12/08 18:44
S139	84525	zinc adj chloride	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/12/09 20:33
S140	1680	benzisothiazolin\$4one	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/12/09 20:35
S141	3131	Proxel near3 GXL	US-PGPUB; USPAT;	OR	ON	2016/12/09 20:35

			USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB			
S142	4695	S140 S141	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/12/09 20:35
S143	0	S139 near5 S142	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/12/09 20:35
S144	0	S139 with S142	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/12/09 20:36
S145	0	S139 with S140	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/12/09 20:36
S146	0	S139 same S140	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/12/09 20:37
S147	1680	benzisothiazolin\$4one	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/12/09 20:37
S148	4695	benzisothiazolin\$4one (Proxel near3 GXL)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/12/09 20:38
S149	0	S148 with (zinc adj chloride)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/12/09 20:38

S150	3	S148 same (zinc adj chloride)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/12/09 20:38
S151	3	(fabric adj care) with (zinc adj pyrrithione)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/12/09 21:15
S152	8	(fabric adj care) same (zinc adj pyrrithione)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/12/09 21:15
S153	155	(fabric adj care) and (zinc adj pyrrithione)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/12/09 21:15
S154	49	fabric with (zinc adj pyrrithione)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/12/09 21:20
S155	4	fabric with (zinc adj pyrrithione) with emulsion	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/12/09 21:21
S156	281	S148 with emulsion	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/12/09 21:25
S157	16	S156 with zinc	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/12/09 21:25
S158	1	1,2-benzathiazoline-3-one	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO;	OR	ON	2016/12/09 21:26

			DERWENT; IBM_TDB			
S159	1	"1,2-benzathiazoline-3-one"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/12/09 21:26
S160	16	S156 same zinc	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/12/09 21:27
S161	76	S156 and zinc	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/12/09 21:27
S162	38	S148 near5 zinc	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/12/09 21:36
S163	0	S162 with emulsion	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/12/09 21:36
S164	0	S162 same emulsion	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/12/09 21:36
S165	4	"5688853".pn.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/12/09 21:37

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<b>APPLICANTS</b> <b>INVENTORS</b> Nicholas Edward Thompson, Lancashire, UNITED KINGDOM; Malcolm Greenhalgh, Sowerby Bridge, UNITED KINGDOM; Fitzgerald Clarke, Manchester, UNITED KINGDOM; <b>** CONTINUING DATA *****</b> This appln claims benefit of 60/808,697 05/26/2006 <b>** FOREIGN APPLICATIONS *****</b> <b>** IF REQUIRED, FOREIGN FILING LICENSE GRANTED **</b> 06/18/2007						
Foreign Priority claimed <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No 35 USC 119(a-d) conditions met <input type="checkbox"/> Yes <input type="checkbox"/> No Verified and Acknowledged <u>/ALI SORUSH/</u> Examiner's Signature		<input type="checkbox"/> Met after Allowance Initials	<b>STATE OR COUNTRY</b> UNITED KINGDOM	<b>SHEETS DRAWINGS</b> 5	<b>TOTAL CLAIMS</b> 18	<b>INDEPENDENT CLAIMS</b> 3
<b>ADDRESS</b> DORITY & MANNING, P.A. POST OFFICE BOX 1449 GREENVILLE, SC 29602-1449 UNITED STATES						
<b>TITLE</b> Isothiazolinone biocides enhanced by zinc ions						
<b>FILING FEE RECEIVED</b> 3350	FEES: Authority has been given in Paper No. _____ to charge/credit DEPOSIT ACCOUNT No. _____ for following:		<input type="checkbox"/> All Fees			
			<input type="checkbox"/> 1.16 Fees (Filing)			
			<input type="checkbox"/> 1.17 Fees (Processing Ext. of time)			
			<input type="checkbox"/> 1.18 Fees (Issue)			
			<input type="checkbox"/> Other _____			
				<input type="checkbox"/> Credit		



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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
11/805,779	05/24/2007	Nicholas Edward Thompson	LZA-15	3981

22827 7590 06/26/2017  
DORITY & MANNING, P.A.  
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GREENVILLE, SC 29602-1449

EXAMINER
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SOROUGH, ALI

ART UNIT	PAPER NUMBER
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1617

MAIL DATE	DELIVERY MODE
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06/26/2017

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

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APPLICATION NO./ CONTROL NO.	FILING DATE	FIRST NAMED INVENTOR / PATENT IN REEXAMINATION	ATTORNEY DOCKET NO.
11/805,779	24 May, 2007	THOMPSON ET AL.	LZA-15

DORITY & MANNING, P.A. POST OFFICE BOX 1449 GREENVILLE, SC 29602-1449		<b>EXAMINER</b>	
		ALI SOROUGH	
		<b>ART UNIT</b>	<b>PAPER</b>
		1617	20170625

DATE MAILED:

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**Commissioner for Patents**

The IDS filed on 05/24/2007 has been considered and attached to this communication.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ALI SOROUGH whose telephone number is (571)272-9925. The examiner can normally be reached on M, W-F (9am-7:30pm). Examiner interviews are available via telephone, in-person, and video conferencing using a USPTO supplied web-based collaboration tool. To schedule an interview, applicant is encouraged to use the USPTO Automated Interview Request (AIR) at <http://www.uspto.gov/interviewpractice>. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Johann Richter can be reached on (571)272-0646. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/ALI SOROUGH/  
Primary Examiner, Art Unit 1617

Doc code :IDS

PTO/SB/08a (03-08)

Doc description: Information Disclosure Statement (IDS) Filed

Approved for use through 05/31/2008. OMB 0651-0031

U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

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**INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT**  
( Not for submission under 37 CFR 1.99)

Application Number	11805779
Filing Date	2007-05-24
First Named Inventor	Thompson et al.
Art Unit	
Examiner Name	
Attorney Docket Number	102863-200

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /A.S/

**U.S.PATENTS**

Examiner Initial*	Cite No	Patent Number	Kind Code <sup>1</sup>	Issue Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
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Examiner Initial*	Cite No	Publication Number	Kind Code <sup>1</sup>	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
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**FOREIGN PATENT DOCUMENTS**

Examiner Initial*	Cite No	Foreign Document Number <sup>3</sup>	Country Code <sup>2</sup> i	Kind Code <sup>4</sup>	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear	T <sup>5</sup>
	1	2230190	GB	A	1990-10-17	Fraser Forrest Morpeth		<input type="checkbox"/>
	2	95/00019	WO		1995-05-01	Payne et al.		<input type="checkbox"/>

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**NON-PATENT LITERATURE DOCUMENTS**

**INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT**  
( Not for submission under 37 CFR 1.99)

Application Number	11805779		
Filing Date	2007-05-24		
First Named Inventor	Thompson et al.		
Art Unit			
Examiner Name			
Attorney Docket Number	102863-200		

Examiner Initials*	Cite No	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, pages(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>5</sup>
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**EXAMINER SIGNATURE**

Examiner Signature	/ALI SOROUGH/	Date Considered	06/25/2017
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\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through a citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup> See Kind Codes of USPTO Patent Documents at [www.USPTO.GOV](http://www.USPTO.GOV) or MPEP 901.04. <sup>2</sup> Enter office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>3</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>4</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. <sup>5</sup> Applicant is to place a check mark here if English language translation is attached.

## PART B - FEE(S) TRANSMITTAL

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 P.O. Box 1450  
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INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

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22827 7590 06/14/2017  
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 POST OFFICE BOX 1449  
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## Certificate of Mailing or Transmission

I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO (571) 273-2885, on the date indicated below.

(Depositor's name)
(Signature)
(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
11/805,779	05/24/2007	Nicholas Edward Thompson	LZA-15	3981

TITLE OF INVENTION: ISOTHAIAZOLINONE BIOCIDES ENHANCED BY ZINC IONS

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID (ISSUE FEE)	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	UNDISCOUNTED	\$960	\$0	\$0	\$960	09/14/2017

EXAMINER	ART UNIT	CLASS-SUBCLASS
SOROUS, ALI	1617	424-401000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

☐ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.

☐ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. Use of a Customer Number is required.

2. For printing on the patent front page, list

(1) The names of up to 3 registered patent attorneys or agents OR, alternatively,

(2) The name of a single firm (having as a member a registered attorney or agent) and the names of up to 3 registered patent attorneys or agents. If no name is listed, no name will be printed.

Dority & Manning, PA

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE

(B) RESIDENCE: (CITY and STATE OR COUNTRY)

ARCH CHEMICALS, INC.

NORWALK, CONNECTICUT

Please check the appropriate assignee category or categories (will not be printed on the patent): ☐ Individual ☒ Corporation or other private group entity ☐ Government

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- ☒ Issue Fee  
☐ Publication Fee (No small entity discount permitted)  
☐ Advance Order - # of Copies

4b. Payment of Fee(s): (Please first reapply any previously paid issue fee shown above)

- ☐ A check is enclosed.  
☒ Payment by credit card. Form PTO-2038 is attached.  
☒ The director is hereby authorized to charge the required fee(s), any deficiency, or credits any overpayment, to Deposit Account Number 04-1403 (enclose an extra copy of this form).

5. Change in Entity Status (from status indicated above)

- ☐ Applicant certifying micro entity status. See 37 CFR 1.29  
☐ Applicant asserting small entity status. See 37 CFR 1.27  
☐ Applicant changing to regular undiscounted fee status.

NOTE: Absent a valid certification of Micro Entity Status (see forms PTO/SB/15A and 15B), issue fee payment in the micro entity amount will not be accepted at the risk of application abandonment.

NOTE: If the application was previously under micro entity status, checking this box will be taken to be a notification of loss of entitlement to micro entity status.

NOTE: Checking this box will be taken to be a notification of loss of entitlement to small or micro entity status, as applicable.

NOTE: This form must be signed in accordance with 37 CFR 1.31 and 1.33. See 37 CFR 1.4 for signature requirements and certifications.

Authorized Signature /Anand K. Patel/

Date June 28, 2017

Typed or printed name Anand K. Patel

Registration No. 70705

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application of:	Nicholas Edward Thompson	)	Examiner:	Ali Soroush
Serial Number:	11/805,779	)	Group Art Unit:	1617
Filed:	05/24/2007	)	Customer Number:	22827
Confirmation No.:	3981	)	Deposit Account:	04-1403
Title:	ISOTHIAZOLINONE BIOCIDES ENHANCED BY ZINC IONS	)	Docket Number:	LZA-15 (P1165US01)

**RESPONSE TO NOTICE OF ALLOWANCE AND FEE(S) DUE**

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Alexandria, VA 22313-1450

Dear Sir:

Respectfully submitted for filing is the Form PTOL-85 Part B -- Fee(s) Transmittal and authorization of payment for the issue fee in the amount of Nine Hundred Sixty dollars (\$ 960.00) for the above-identified patent.

The Commissioner is hereby authorized to charge any fee specifically authorized hereafter, or any fees in addition to the fee(s) filed, or asserted to be filed, or which should have been filed herewith or concerning any paper filed hereafter, and which may be required under Rules 16-18 (deficiency only) now or hereafter relative to this application and the resulting official document under Rule 20, or credit any overpayment, to our Account No. shown in the heading hereof.

Respectfully submitted,

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June 28, 2017

Date

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DATE: June 28, 2017

NAME: Denise Bulkeley

SIGNATURE: 

/Anand K. Patel/

Anand K. Patel

Registration No.: 70705

P.O. Box 1449

Greenville, SC 29602-1449

Telephone: (864) 271-1592

Facsimile: (864) 233-7342

## Electronic Patent Application Fee Transmittal

<b>Application Number:</b>	11805779			
<b>Filing Date:</b>	24-May-2007			
<b>Title of Invention:</b>	ISOTHIAZOLINONE BIOCIDES ENHANCED BY ZINC IONS			
<b>First Named Inventor/Applicant Name:</b>	Nicholas Edward Thompson			
<b>Filer:</b>	Anand Kalyanbhai Patel/Denise Bulkeley			
<b>Attorney Docket Number:</b>	LZA-15			
Filed as Large Entity				
<b>Filing Fees for    Utility under 35 USC 111(a)</b>				
<b>Description</b>	<b>Fee Code</b>	<b>Quantity</b>	<b>Amount</b>	<b>Sub-Total in USD(\$)</b>
<b>Basic Filing:</b>				
<b>Pages:</b>				
<b>Claims:</b>				
<b>Miscellaneous-Filing:</b>				
<b>Petition:</b>				
<b>Patent-Appeals-and-Interference:</b>				
<b>Post-Allowance-and-Post-Issuance:</b>				
UTILITY APPL ISSUE FEE	1501	1	960	960

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Extension-of-Time:				
Miscellaneous:				
Total in USD (\$)				960

## Electronic Acknowledgement Receipt

<b>EFS ID:</b>	29638026
<b>Application Number:</b>	11805779
<b>International Application Number:</b>	
<b>Confirmation Number:</b>	3981
<b>Title of Invention:</b>	ISOTHIAZOLINONE BIOCIDES ENHANCED BY ZINC IONS
<b>First Named Inventor/Applicant Name:</b>	Nicholas Edward Thompson
<b>Customer Number:</b>	22827
<b>Filer:</b>	Anand Kalyanbhai Patel/Denise Bulkeley
<b>Filer Authorized By:</b>	Anand Kalyanbhai Patel
<b>Attorney Docket Number:</b>	LZA-15
<b>Receipt Date:</b>	28-JUN-2017
<b>Filing Date:</b>	24-MAY-2007
<b>Time Stamp:</b>	16:06:46
<b>Application Type:</b>	Utility under 35 USC 111(a)

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Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		LZA15_IssueFee.pdf	183202	yes	2
			70d878e88e3461dbf6cf395fdf21fc28754e85b		
	<b>Multipart Description/PDF files in .zip description</b>				
	<b>Document Description</b>		<b>Start</b>	<b>End</b>	
	Issue Fee Payment (PTO-85B)		1	1	
	Miscellaneous Incoming Letter		2	2	
<b>Warnings:</b>					
<b>Information:</b>					
2	Fee Worksheet (SB06)	fee-info.pdf	30766	no	2
			152f7524badd96ca7011fed6ab8da80dc0ac4d4		
<b>Warnings:</b>					
<b>Information:</b>					
<b>Total Files Size (in bytes):</b>			213968		
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Receipt date: 03/29/2011

11805779 - GAU: 1617

Doc code: IDS

PTO/SB/08a (01-10)

Doc description: Information Disclosure Statement (IDS) Filed

Approved for use through 07/31/2012. OMB 0651-0031

U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

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<b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b> ( Not for submission under 37 CFR 1.99)	Application Number		11805779	
	Filing Date		2009-05-24	
	First Named Inventor	Nicholas Edward Thompson		
	Art Unit	1616		
	Examiner Name	Soroush, Ali		
	Attorney Docket Number	102863-200		

**U.S.PATENTS**

Examiner Initial*	Cite No	Patent Number	Kind Code <sup>1</sup>	Issue Date	Name of Patentee or Applicant of cited Document	Pages, Columns, Lines where Relevant Passages or Relevant Figures Appear
Change(s) applied to document, /A.S./ /S.J.W./ 6/21/2017	1	5208272		1993-05-04	LeSota	
/A.S./	2	4031055		1977-06-21	Dupont, et al.	

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**U.S.PATENT APPLICATION PUBLICATIONS**

Examiner Initial*	Cite No	Publication Number	Kind Code <sup>1</sup>	Publication Date	Name of Patentee or Applicant of cited Document	Pages, Columns, Lines where Relevant Passages or Relevant Figures Appear
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Examiner Initial*	Cite No	Foreign Document Number <sup>3</sup>	Country Code <sup>2</sup>	Kind Code <sup>4</sup>	Publication Date	Name of Patentee or Applicant of cited Document	Pages, Columns, Lines where Relevant Passages or Relevant Figures Appear	T <sup>5</sup>
	1							<input type="checkbox"/>

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**NON-PATENT LITERATURE DOCUMENTS**

<b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b> ( Not for submission under 37 CFR 1.99)	Application Number		11805779
	Filing Date		2007-05-24
	First Named Inventor	Nicholas Edward Thompson et al.	
	Art Unit	1616	
	Examiner Name	Ali Soroush	
	Attorney Docket Number	102863-200	

U.S.PATENTS						
Examiner Initial*	Cite No	Patent Number	Kind Code <sup>1</sup>	Issue Date	Name of Patentee or Applicant of cited Document	Pages, Columns, Lines where Relevant Passages or Relevant Figures Appear
Change(s) applied to document, /C.L./A.S./ 6/28/2017	1	4150026	B1	04/1979 <del>1985-03-19</del>	Miller et al. <del>Amick R. David</del>	

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U.S.PATENT APPLICATION PUBLICATIONS						
Examiner Initial*	Cite No	Publication Number	Kind Code <sup>1</sup>	Publication Date	Name of Patentee or Applicant of cited Document	Pages, Columns, Lines where Relevant Passages or Relevant Figures Appear
/A.S./	1	20070275945	A1	2007-11-29	Lindner Wolfgang	

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FOREIGN PATENT DOCUMENTS								
Examiner Initial*	Cite No	Foreign Document Number <sup>3</sup>	Country Code <sup>2</sup> j	Kind Code <sup>4</sup>	Publication Date	Name of Patentee or Applicant of cited Document	Pages, Columns, Lines where Relevant Passages or Relevant Figures Appear	T <sup>5</sup>
	1							<input type="checkbox"/>

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NON-PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, pages(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>5</sup>



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APPLICATION NO.	ISSUE DATE	PATENT NO.	ATTORNEY DOCKET NO.	CONFIRMATION NO.
11/805,779	08/08/2017	9723842	LZA-15	3981

22827 7590 07/19/2017

DORITY & MANNING, P.A.  
POST OFFICE BOX 1449  
GREENVILLE, SC 29602-1449

## ISSUE NOTIFICATION

The projected patent number and issue date are specified above.

### **Determination of Patent Term Adjustment under 35 U.S.C. 154 (b)** (application filed on or after May 29, 2000)

The Patent Term Adjustment is 0 day(s). Any patent to issue from the above-identified application will include an indication of the adjustment on the front page.

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (<http://pair.uspto.gov>).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Application Assistance Unit (AAU) of the Office of Data Management (ODM) at (571)-272-4200.

APPLICANT(s) (Please see PAIR WEB site <http://pair.uspto.gov> for additional applicants):

Nicholas Edward Thompson, Lancashire, UNITED KINGDOM;  
Malcolm Greenhalgh, Sowerby Bridge, UNITED KINGDOM;  
Fitzgerald Clarke, Manchester, UNITED KINGDOM;

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