



November 24, 2021

Ms. Katie Webb
CEO
Quanta X Technology LLC
8134 122nd St.
Seminole, Fl. 33772

RE: High Energy Ozone LLC - Technology Notice Letter (via email & USPS)

Dear Ms. Webb,

I am writing to inform you that our company, HEO3 LLC (dba: Far-UV Sterilray™), is the exclusive licensee of several patents and patent applications owned by S. Edward Neister relating to Far-UVC disinfection technology. Please be advised that S. Edward Neister is the legal owner of U.S. Patent Nos. 9,700,642 and 8,975,605. (Attached), as well another pending patent application published as US2017/0304472 (Attached). The purpose of this letter is to inform you that these listed patents and pending patent relate to some of the features incorporated into Quantadose products. In particular, the description of the QuantaBuld, QuantaGuard, and QuantaHall products on your website at (www.Quantadose.com) appears to teach a product which utilizes 222nm light for disinfection, and lamps generating the same. This appears to read on technologies that are potentially covered by Mr. Neister's patents. We request that you examine the attached patents and inform us as to how you plan to proceed with your Quantadose products.

We are very interested in protecting our rights and would like to prevent any potential market interference or other issues before it is too late. We would be happy to enter into a supply agreement to provide you with your 222 nm lamp and power supply needs. This type of arrangement would eliminate any patent-related issues. As a customer, you will also have access to our vast and cutting-edge expertise relating to 222nm lamp and disinfection technology, including substantial know-how in the field. Alternatively, or in addition, we would be willing to discuss licensing and/or further cooperation to develop this exciting technology. Therefore, please get back to me regarding your intentions within twenty (20) days.

This letter is not intended to be a complete recitation of our rights. We look forward to your timely response.

Kind Regards,

Michael J. Olsen

Michael J. Olsen
Chief Marketing Officer
Far - UV Sterilray™
30 Centre Road, Suite 5
Somersworth, NH 03878
<https://sterilray.com/>

Attachments (US9700642, US8975605, US20170304472A1)



US009700642B2

(12) **United States Patent**
Neister

(10) **Patent No.:** **US 9,700,642 B2**
(45) **Date of Patent:** **Jul. 11, 2017**

(54) **METHOD AND APPARATUS FOR STERILIZING AND DISINFECTING AIR AND SURFACES AND PROTECTING A ZONE FROM EXTERNAL MICROBIAL CONTAMINATION**

(56) **References Cited**

U.S. PATENT DOCUMENTS

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(Continued)

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U.S. Appl. No. 60/543,710, Feb. 11, 2004.*

Primary Examiner — Regina M Yoo

(74) *Attorney, Agent, or Firm* — Lambert & Associates;
Gary E. Lambert; David J. Connaughton, Jr.

(71) Applicant: **S. Edward Neister**, Dover, NH (US)

(72) Inventor: **S. Edward Neister**, Dover, NH (US)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 142 days.

(21) Appl. No.: **14/254,957**

(22) Filed: **Apr. 17, 2014**

(65) **Prior Publication Data**

US 2014/0227132 A1 Aug. 14, 2014

Related U.S. Application Data

(63) Continuation-in-part of application No. 11/831,667, filed on Jul. 31, 2007, now Pat. No. 8,753,575, which (Continued)

(51) **Int. Cl.**

A61L 2/10 (2006.01)
A61L 2/00 (2006.01)

(Continued)

(52) **U.S. Cl.**

CPC **A61L 2/10** (2013.01); **A23B 7/015** (2013.01); **A23L 3/28** (2013.01); **A61L 2/0011** (2013.01); **A61L 9/20** (2013.01); **B08B 17/00** (2013.01)

(58) **Field of Classification Search**

CPC . A61L 2/10; A61L 2/0011; A61L 9/20; A23L 3/28; A23B 7/015; B08B 17/00

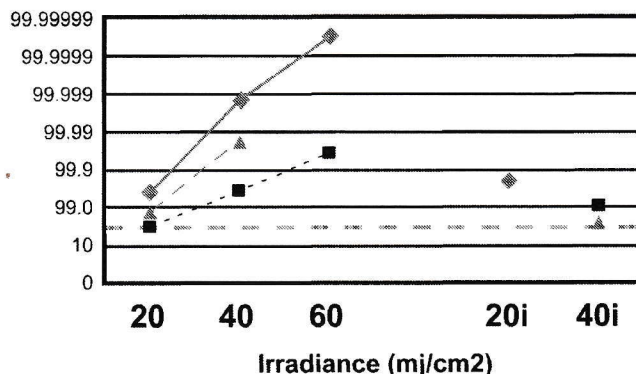
See application file for complete search history.

(57) **ABSTRACT**

This invention relates to a method, process and apparatus for disinfecting and sterilizing all types of surfaces contaminated with microorganisms and toxic substances to render both inactive. Furthermore, this invention relates to both a method and apparatus for disinfecting and/or sterilizing breathable air and then using this air to protect a confined space from external contamination. The apparatus consists of a new ultra-violet (NUV) source that is more effective than mercury based 254 nm light for destroying DNA of virus, bacteria, spores and cysts. It is most effective in breaking chemical bonds in toxic gases and Biotoxins that are useful to terrorists. It is combined with other apparatus that remove particulates and byproducts sometimes produced by the NUV source and maintains positive pressure of the confined space so as to prevent the influx of air from outside the protected zone.

18 Claims, 10 Drawing Sheets

% Reduction of MS-2 Phage Virus



◆ Sterilray™ (222 nm) ■ - 253 nm ▲ - 259 nm

..... Chemical Cleaners

: UV Irradiation Test on MS2



US008975605B2

(12) **United States Patent**
Neister

(10) **Patent No.:** **US 8,975,605 B2**
(45) **Date of Patent:** **Mar. 10, 2015**

(54) **METHOD AND APPARATUS FOR PRODUCING A HIGH LEVEL OF DISINFECTION IN AIR AND SURFACES**

USPC 250/504 R, 365, 372, 482.1, 492.1;
422/24, 120, 121, 186.3; 210/748.1
See application file for complete search history.

(71) Applicant: **S. Edward Neister**, New Durham, NH (US)

(56) **References Cited**

(72) Inventor: **S. Edward Neister**, New Durham, NH (US)

U.S. PATENT DOCUMENTS

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

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| 2006/0188835 A1 | 8/2006 | Nagel et al. | |
| 2007/0102280 A1 * | 5/2007 | Hunter et al. | 204/157.15 |

(21) Appl. No.: **13/936,306**

(22) Filed: **Jul. 8, 2013**

(65) **Prior Publication Data**

US 2014/0140888 A1 May 22, 2014

Related U.S. Application Data

(63) Continuation of application No. 13/145,663, filed as application No. PCT/US2009/032392 on Jan. 29, 2009, now Pat. No. 8,481,985.

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Primary Examiner — Nikita Wells
(74) *Attorney, Agent, or Firm* — Lambert & Associates; Gary E. Lambert; David J. Connaughton, Jr.

(51) **Int. Cl.**
G01N 21/33 (2006.01)
G21K 5/00 (2006.01)
A61L 2/10 (2006.01)
A61L 9/20 (2006.01)

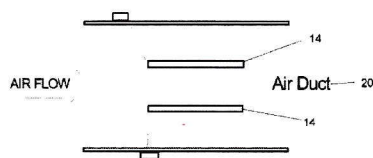
(57) **ABSTRACT**

This specification relates to an improved method, process and apparatus for disinfecting and sterilizing all types of surfaces and indoor air and room air contaminated with microorganisms. The improved apparatus consists of a multi-wavelength narrow spectral width UV source that is more effective than mercury based 254 nm germicidal lamps for destroying the DNA and outer shell or membrane of virus, bacteria, spores and cists.

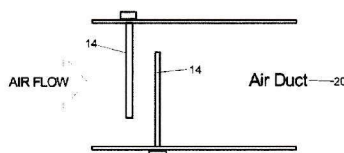
(52) **U.S. Cl.**
CPC **A61L 2/10** (2013.01); **A61L 9/20** (2013.01)
USPC **250/504 R**; 250/365; 250/372; 250/492.1;
422/24; 422/120; 422/121; 422/186.3; 210/748.1

(58) **Field of Classification Search**
CPC ... B01D 2257/91; B01D 53/007; H01J 61/36;
H01J 61/547; G01N 21/33; G21K 5/00;
A61L 2/10

6 Claims, 9 Drawing Sheets



a. parallel irradiation



b. perpendicular irradiation

Air Treatment in high volume ducts



US 20170304472A1

(19) **United States**

(12) **Patent Application Publication**
Neister et al.

(10) **Pub. No.: US 2017/0304472 A1**

(43) **Pub. Date: Oct. 26, 2017**

(54) **METHOD AND APPARATUS FOR
STERILIZING AND DISINFECTING AIR AND
SURFACES AND PROTECTING A ZONE
FROM EXTERNAL MICROBIAL
CONTAMINATION**

A61N 5/06 (2006.01)
A61N 5/06 (2006.01)
A61N 5/06 (2006.01)

(52) **U.S. Cl.**
CPC *A61L 2/0047* (2013.01); *A61N 5/0624*
(2013.01); *A61N 2005/0654* (2013.01); *A61L*
2202/22 (2013.01); *A61N 2005/0661*
(2013.01); *A61N 2005/063* (2013.01)

(71) Applicants: **S. Edward Neister**, Dover, NH (US);
John James Rowsey, Belleair, FL (US)

(72) Inventors: **S. Edward Neister**, Dover, NH (US);
John James Rowsey, Belleair, FL (US)

(21) Appl. No.: **15/645,480**

(22) Filed: **Jul. 10, 2017**

Related U.S. Application Data

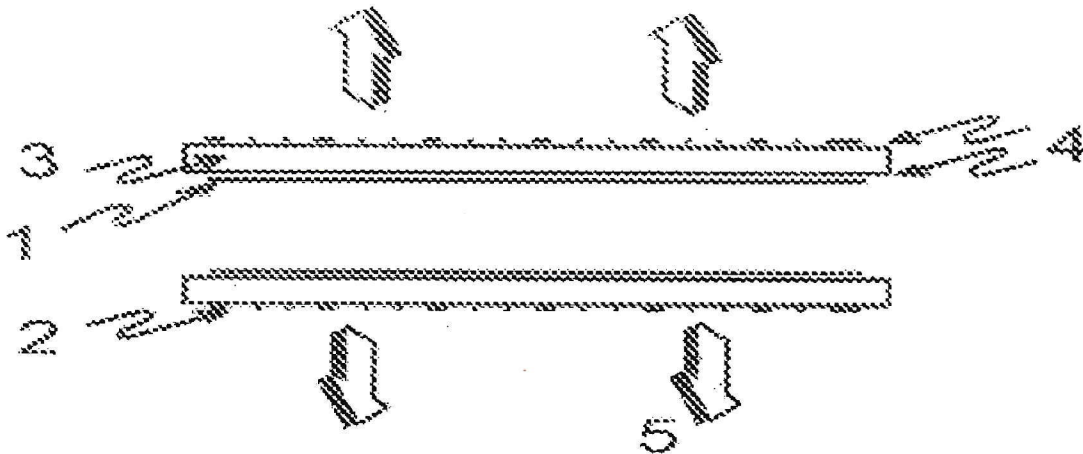
(63) Continuation-in-part of application No. 14/254,957,
filed on Apr. 17, 2014, now Pat. No. 9,700,642, which
is a continuation-in-part of application No. PCT/
US2006/003393, filed on Jul. 31, 2007.

Publication Classification

(51) **Int. Cl.**
A61L 2/00 (2006.01)
A61N 5/06 (2006.01)

(57) **ABSTRACT**

This invention relates to a method, process and apparatus for disinfecting and sterilizing all types of surfaces contaminated with microorganisms and toxic substances to render both inactive. Furthermore, this invention relates to both a method and apparatus for disinfecting and/or sterilizing breathable air and then using this air to protect a confined space from external contamination. The apparatus consists of a new ultra-violet (NUV) source that is more effective than mercury based 254 nm light for destroying DNA of virus, bacteria, spores and cists. It is most effective in breaking chemical bonds in toxic gases and Biotoxins that are useful to terrorists. It is combined with other apparatus that remove particulates and byproducts sometimes produced by the NUV source and maintains positive pressure of the confined space so as to prevent the influx of air from outside the protected zone.



NUV Lamp