Pharma Post

SPECIAL PYLOTE

June 2023

What sustainable and safe solution to manage this major health issue from manufacturing to the use of finished products?

A complete feature on these questions and Pylote's answer with its unique and permanent antimicrobial mineral technology, which provides a safe, robust and environmentally friendly response to address these risk factors from manufacturing to finished products.

SUMMARY

14 | PYLOTE, A NEW PLAYER THAT CHANGES THE GAME WITH AN UNIQUE DISRUPTIVE INNOVATION

INTERVIEW LOÏC MARCHIN, CEO of PYLOTE

Loïc Marchin, CEO at Pylote - @Pylote

What is Pylote's vision and mission?

Loïc Marchin: Pylote's DNA is based on a responsible approach to our development model. It is about contributing to a better world through a preventive approach to infectious risk and enabling the transition to safe product reuse, all while improving the environmental impact throughout the entire cycle.

Our mission is to deploy this approach for shared surfaces and repeat-use products with three complementary objectives:

- Reducing the risk of contamination and infection

- Reducing the environmental footprint

- Reduction of direct and indirect costs

What is the competitive advantages of your offer?

Loïc Marchin: The result of nearly 15 years of experience, our offer is distinguished by the fact that it is an unique technology that Protect patients health and well-beying, by avoiding microbial transmission, based on self-decontaminating surfaces properties, permanently, activated by a world-first safe technology integrated in the materials, without modification.

Specific and unique combination of parameters:

- Self-decontaminating surfaces,

continuously, without intervention or additional equipment.

- A world-first combining the proven effectiveness in vitro & in real use, the permanence of this efficiency over the life of the surface, the safety of our solution without metal, nanoparticles nor release.

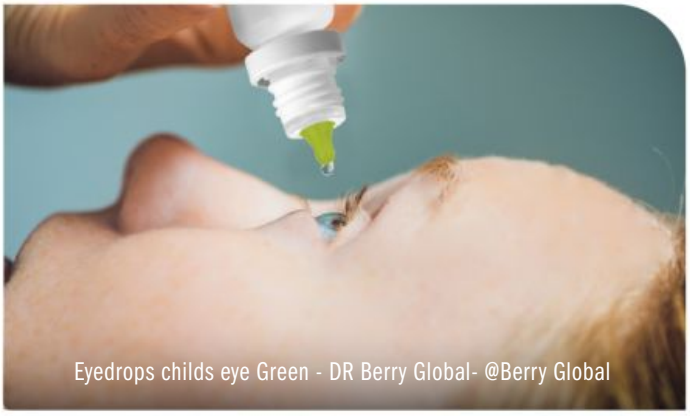
- Compatible with a very large number of materials and industrial processes, allowing this prevention to be applied to an infinite number of surfaces and products in all sectors, for everyone.

- An unique industrial process of green mineral chemistry, cleantech, for continuous production without waste, using water and thermal heat.

How would you describe the impact your technology can have?

Loïc Marchin: In order to talk about the impact or rather the impacts of our technology, knowledge of the risks is an essential prerequisite. The risk of infection seems to us to be the very first risk, from every point of view.

Because today we are now in a world where bacterial infections are the second leading cause of death in the world, after heart disease. In addition, all experts regularly inform about the



Eyedrops childs eye Green - DR Berry Global- @Berry Global

risk of microbial resistance. In other words, the curative drug approach unfortunately appears to be an uncertain way to mitigate this risk, at least in the short and medium term. This search for curative measures must be associated with risk prevention (as it always should be), which will help limit infections. Our technology, and more broadly our company, has been designed and developed with this in mind.

An avoided infection also translates into relevant (indispensable) co-benefits in the face of climate change and economic impacts. For example, we have calculated that activating ophthalmic eye drops with our technology alone reduces the amount of plastic used by 16 times for the same treatment time.

And that's not all, an infection avoided is also (and this is not exhaustive) a treatment not consumed (and therefore remaining available, relevant in this period of shortage), so also transport,

materials and energy saved. In economic terms, the impact is immediate with avoided consultations and reimbursement costs, and less expenditure for the health systems. To stay on this example in ophthalmology, for the year 2016 alone, the USA quantified the costs at more than 1 billion dollars for bacterial conjunctivitis alone (viral conjunctivitis has no treatment to date),

Another, more recent risk is related to eco-design work. Let's take the rule of the three "R's": recyclability, reduction, reuse. Switching to "reuse" a product that is not reusable today will raise two risks, that of product complexity (with the risk of going against the 2nd "R") and that of hygiene. For example, the use of refillable mascaras brings a microbiological risk in the refill phases. Our technology has enable us to develop a refillable mascara that reduce the risk of contamination.

Our offer enables each partner and customer to deploy these advantages in their products, drawing on the expertise of our teams in technical, regulatory and marketing aspects.

We have been developing this technology for over 15 years. We have made sure that everything is in place to facilitate and consolidate the transfer to our partners' and customers' products. Today, our technology is delivering its benefits in products and surfaces to meet prevention needs. Despite all these successes with our partners, we have only addressed a small fraction of the risks to be covered in view of the health, ecological and economic challenges facing our societies. The benefits of such a technology can only be truly useful when the industry joins in and applies them to their products. We're ready to forge partnerships to prevent these risks as early as possible.

The Pharmaceutical Post

INDUSTRY NEWS
IN DEPTH-FOCUS
TECHNICAL PAPERS
INTERVIEW

Subscribe now

200€

1 year subscription

- 4 printed issues
- 1 annual guide
- 6 digital supplements

370€

2 years subscription

- 8 printed issues
- 2 annual guides
- 12 digital supplements

Follow us on social media

+33 (0)1 88 61 07 12

contact@thepharmaceuticalpost.com

www.thepharmaceuticalpost.com

MICROBIAL CONTAMINATION: A MAJOR HEALTH ISSUE

1st scientific publication led by Pylote on the proven risk of microbial contamination of ophthalmic droppers

Pylote, in association with scientists recognized in the hospital and university world, have produced the first large-scale scientific publication with arguments and illustrations to highlight the proven risk of microbial contamination represented by the tips and caps of ophthalmic droppers. Evidence accumulated over 30 years of scientific studies (31 out of 1503 selected studies) has shown that the handling of eye drops by patients, caregivers and health care providers constitutes a proven risk of contamination of the dropper tip.

pharmaceutics

an Open Access Journal by MDPI

Highlighting the Microbial Contamination of the Dropper Tip and Cap of In-Use Eye Drops, the Associated Contributory Factors, and the Risk of Infection: A Past-30-Years Literature Review

Katia Iskandar; Loïc Marchin; Laurent Kodjikian; Maxime Rocher; Christine Roques

Pharmaceutics **2022**, Volume 14, Issue 10, 2176

pharmaceutics

an Open Access Journal by MDPI

PubMed CITESCORE 6.0 IMPACT FACTOR 6.525

CERTIFICATE OF PUBLICATION

Certificate of publication for the article titled:

Highlighting the Microbial Contamination of the Dropper Tip and Cap of In-Use Eye Drops, the Associated Contributory Factors, and the Risk of Infection: A Past-30-Years Literature Review

Authored by:

Katia Iskandar; Loïc Marchin; Laurent Kodjikian; Maxime Rocher; Christine Roques

Published in:

Pharmaceutics 2022, Volume 14, Issue 10, 2176

MDPI

Basel, October 2022

Read the full publication

2 QUESTIONS TO PROF. LAURENT KODJIKIAN*

* OPHTHALMOLOGY SERVICE OF THE CROIX-ROUSSE HOSPITAL OF LYON, HOSPICES CIVILS DE LYON & UNIVERSITY OF LYON 1 (FRANCE)

What is the main finding of this publication?

Laurent Kodjikian: *"While the sterility of the eye drop is a primary concern from manufacturing until opening, the microbial contamination of the dropper tip and cap represents a risk of microbial transmission and ocular infection. Limiting this risk is essential to avoid dramatic injuries to patient. The literature review showed that the microbial contamination rate of eye drop (containing or not preservative) varied from 2% to 94%, among which 7% to 100% are attributable to the contamination of the dropper tip ans cap. Evidence has shown that the handling of eye drops by patients, caregivers, and healthcare providers is a risk for dropper tip surface contamination."*

What is the main conclusion & the existing solutions to address this risk?

Laurent Kodjikian: *"Microbial contamination of the tip and cap therefore represents a major risk and a strategic issue in the fight against infections. Pylote offers an innovative green solution, without metal, release or treatment method, that provides optimal protection against microbial contamination of the dropper tip and cap. Pylote's technology is a revolutionary idea for an open need."*

7.7% TO 100% OF EYE DROPS ARE ATTRIBUTABLE TO THE CONTAMINATION OF THE DROPPER TIP AND CAP

Origin and response to microbial contamination of multidose eye drops with or without preservatives: A Tribune published in the Pharmaceutical Post on January 2023 based on the synthesis of the review article published in Pharmaceutics *"Highlighting the Microbial Contamination of the Dropper Tip and Cap of In-Use Eye Drops, the Associated Contributory Factors, and the Risk of Infection: A Past-30-Years Literature Review".*

THE EFFICIENT & SAFE TECHNOLOGY TO PREVENT MICROBIAL INFECTION OF INHALATION DEVICES

Routine cleaning and disinfection of in-use medical respiratory devices and equipment are necessary to prevent microbial contamination and secure patient safety. According to Spaulding, respiratory devices are classified as intermediate risk (semi-critical) because they come into contact with mucous membranes or non-intact skin. They require thorough cleaning followed by high-level disinfection. The microbial contamination of respiratory devices intended for home or hospital use to treat or prevent multiple diseases was extensively studied. The colonization and contamination of spacer devices, mouthpieces of common-use pressurized metered dose inhalers (pMDI) canisters, dry powder inhalers (DPI), soft mist inhalers (SMI), nebulizers masks, chambers, and mouthpieces, and Continuous Positive Airway Pressure (CPAP) are alarming. The long-term use of these devices exposes them to the risk of contamination from the environment or auto-infection. Microbial cultures taken from in-use devices showed microbial growth of susceptible and resistant bacteria, biofilm formation, and fungi. Microbial contamination of other pharmaceutical products with a similar modality of use was demonstrated in a review of the dropper tip contamination of in-use ophthalmic solutions. To prevent these risks implies a very complex specification combining a broad spectrum efficiency, a persistence of efficiency in use and the absence of side effects. Current offers are based on the addition of substances whose mechanism of action is to migrate from the material to the formula, human and the environment. The unique available solution to prevent microbial contamination is transforming critical parts or whole respiratory devices into self-decontaminating products using antimicrobial mineral technology. This technology is a green breakthrough innovation by Pylote.

Activated Rispharm™ is a recent example that represents the successful partnership between “Berry Global” (USA) and Pylote. It is the first-to-market multidose antimicrobial dropper to help prevent eye microbial infections in a patient[20]. This product won the Pharmapack 2022 award for innovative packaging that improves patient safety, reduces environmental impact and control the costs of infection. The concept relies on integrating these oxide mineral microspheres in the material to acquire a self-decontaminating property with proven efficacy against bacteria, viruses, and fungi. This antimicrobial mineral technology is de-

veloped and patented from cleantech production to application by Pylote. It is a non-ionic, nonmetal, and not nanoparticles-based innovation. The mechanism of action is based on rapidly biodegradable active molecules. This technology is authorized, for parenteral administration, including the European Pharmacopeia. The mineral microspheres can be integrated into porous and non-porous materials, including medical and pharmaceutical devices, without modification of the manufacturing process. Pylote technology is a demonstrated combination of efficiency and sustainability proven in vitro and in situ under real-life conditions. The antimicrobial activity of oxide mineral microspheres is a unique non-release approach. The technology is a breakthrough measure, certified according to ISO 10993, to prevent microbial contamination and secure patient safety without harsh chemicals or other decontamination methods. The advantages are attributable to lower resource use, reduce infections costs and the implementation of green, safe, efficient and environment-friendly solutions.

PANEL DISCUSSION AT CONNECT IN PHARMA 2023 GENÈVE LED BY PYLOTE

Round table discussion on how to manage infection risks & microbial contamination, a major health issue from manufacturing to the use of finished products. Crossed expertise with speakers from pharmaceutical laboratory, CDMO, antimicrobial technology player, ophthalmologist & head of clinic and professor in industrial microbiology and hygiene

In this debate, the issues, the prevention solutions to be implemented and the factors to be taken into account concerning the risks of microbial contamination during the production phases of the product as well as on the production sites of medical devices or drugs will be discussed. In addition to regulatory issues, other aspects will be addressed, such as prescriber awareness of risks, risks during new product development, potential contamination during the use and sustainable circularity. Finally, innovative industrial solutions to reduce these risks of microbial contamination on surfaces and in finished products will be presented with criteria of effectiveness and robustness.

Thursday, June 15, 2023 - 1:00 PM - 2:00 PM

Panel Discussion - Microbial contamination, what sustainable and safe solution to manage this major health issue from manufacturing to the use of finished products ?

CONNECT IN PHARMA

PROF. CHRISTINE ROQUES
Faculté de Pharmacie
de Toulouse / CHU Purpan Toulouse (France)

Ph.D CAMILLE GUERIN
R&D Director at Horus Pharma

GEOFFROY MIJOLA
QC Manager - Biological & Microbiological activities at GTP Biologics

Ph.D LOÏC MARCHIN
Founder & CEO at Pylote

DR MAXIME ROCHER
Clinic Director, Assistant des Hôpitaux,
Ophtalmology Department at CHU Limoges (France)

PYLOTE, A NEW PLAYER THAT CHANGES THE GAME WITH AN UNIQUE DISRUPTIVE INNOVATION

A differentiating mineral antimicrobial technology: innovative, green, clean and unique

The antimicrobial mineral technology developed and patented from production to application by Pylote is a unique breakthrough green innovation. Over the past decade, Pylote has integrated its technology into various porous and nonporous materials, including pharmaceutical and medical devices. The incorporated materials with Pylote oxide mineral microspheres acquire a self-decontaminating property with proven efficacy against bacteria, viruses, and fungi. The mineral microspheres can be integrated into various materials without extra costs or modification of the manufacturing process.

50+ WORLDWIDE PATENTS
COVERING THE WHOLE CHAIN
FROM PROCESS TO APPLICATIONS

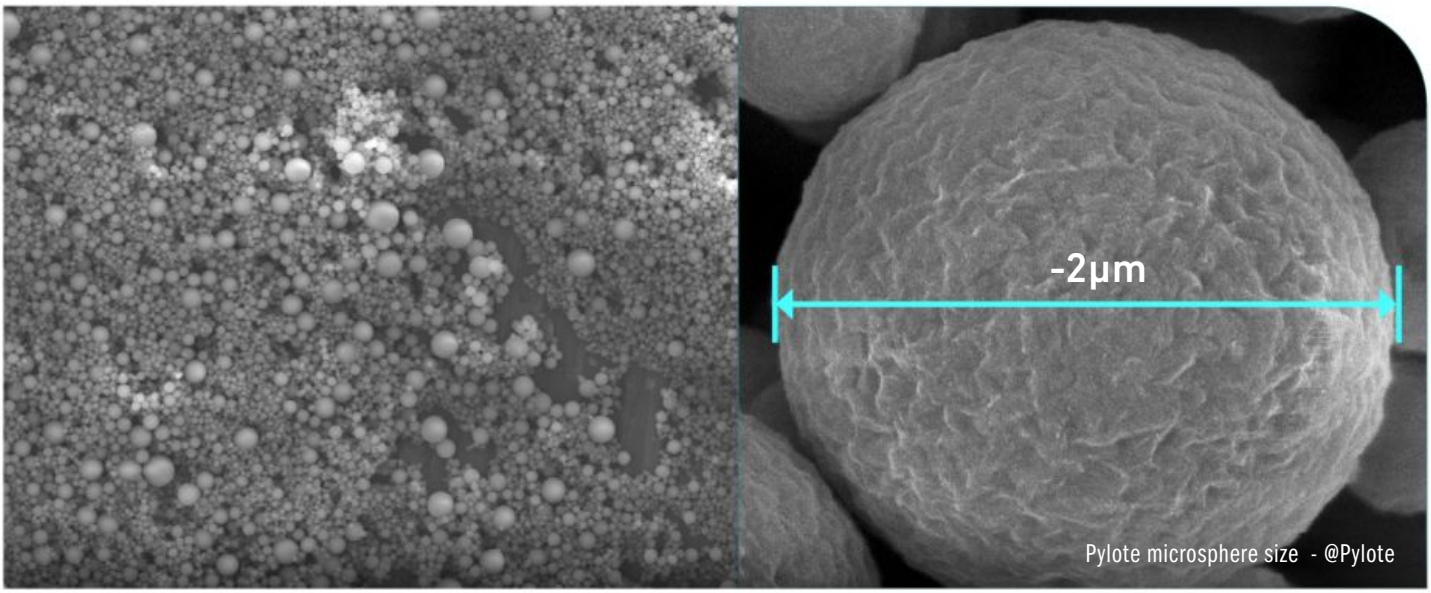
This unique feature is an advantage that has attracted worldwide interest in this innovative technology and has led to the consolidation of many partnerships. Pylote's technology is a demonstrated combination of efficiency, durability, and sustainability proven in vitro according to the ISO and JIS standards and in situ under real-life conditions.

Pylote's technology is a demonstrated combination of efficiency, durability, and sustainability proven in vitro according to the ISO and JIS standards and in situ under real-life conditions.

Oxide mineral microspheres

The Pylote patented mineral technology is a micro-manufactured one-step cleantech process called *Pyrolyse Pulvérisée®*. The oxide mineral microspheres are rapidly biodegradable high-purity ceramic particles with a sphericity coefficient of ≥0.75µm, characterized by a narrow distribution size.

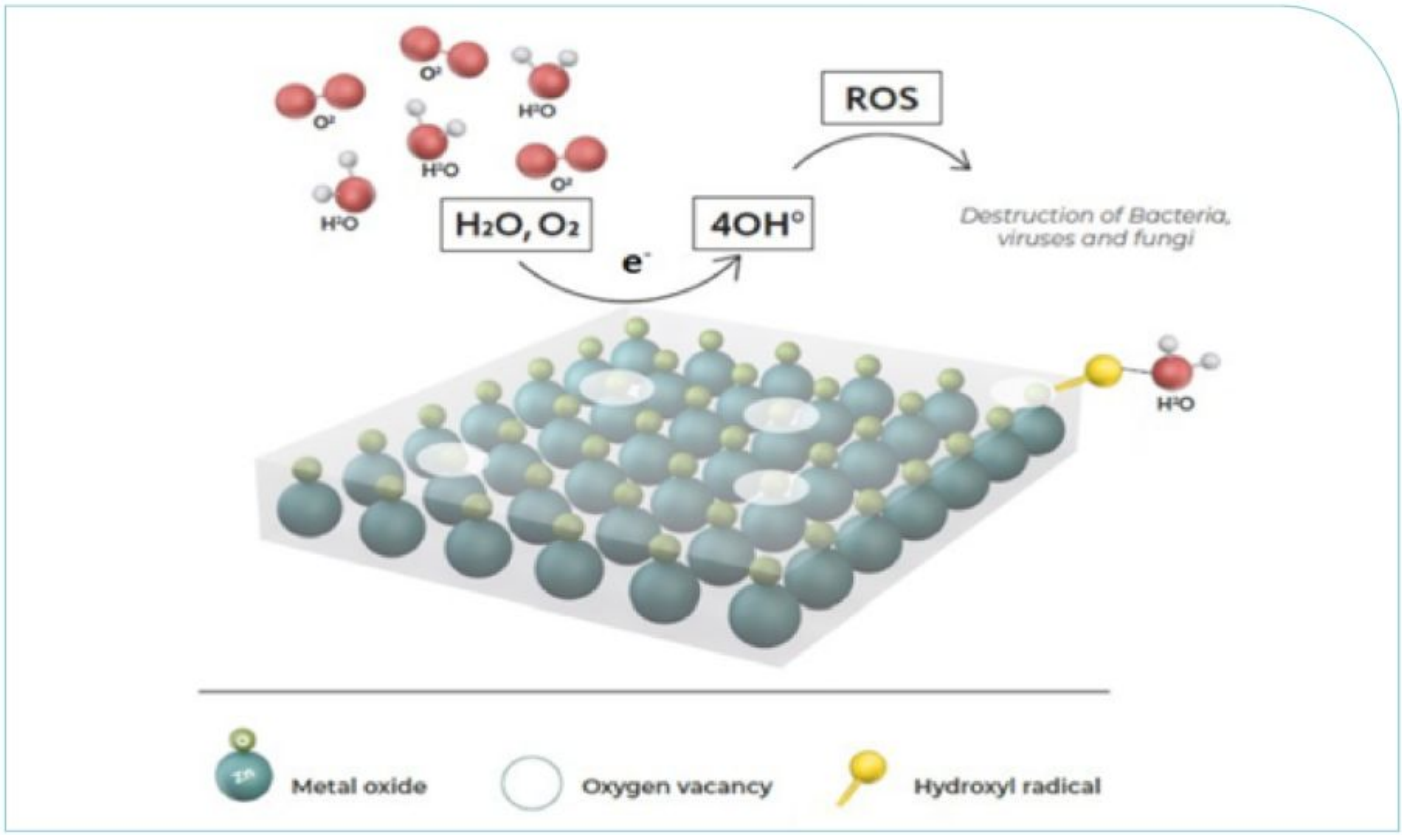
The technology is a non-ionic, nonmetal, and not nanosphere-based innovation potentially friendly to humans and the environment. The oxidizing agents, including zinc oxide (ZnO) and magnesium oxide (MgO) are rapidly biodegradable active molecules. They have authorized additives for pharmaceutical parenteral products in the European.



Pylote microsphere size - @Pylote

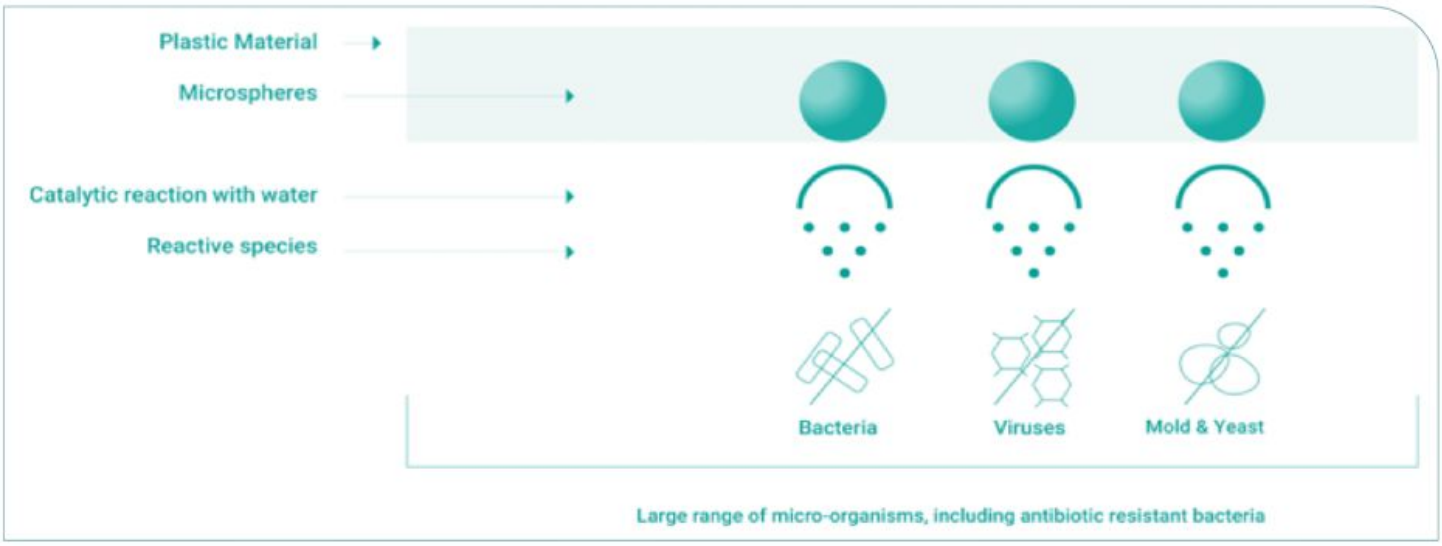
MECHANISM OF ACTION

The antimicrobial activity of oxide mineral microspheres is a non-release approach exerted upon direct contact with the micro-organism. The oxide mineral microspheres have an electron donor characteristic that produces, in contact with water, reactive oxygen species (ROS), mainly hydroxyl radicals. The mechanism of action is not photo-activated and relies on the oxide mineral surface defects called oxygen vacancies. This reaction occurs in nanoseconds within dozens of nanometers of the integrated material surface.



ANTIMICROBIAL SPECTRUM OF ACTIVITY

The highly oxidizing hydroxyl radicals generate on the surface of the microspheres lead to the destruction of a demonstrated wide array of microorganisms, including Gram-positive bacteria (GPB), Gram-negative bacteria (GNB), susceptible and resistant strains, in addition to viruses, and at lower levels, fungi by direct contact. These include, among others :



GPB: *Staphylococcus epidermidis CIP 68·21, S. aureus CIP 53·156, S.aureus ATCC 33591 metiR, S. pyogenes CIP 56·41T , L. monocytogenes CIP 82·110T*

GNB : *E. coli CIP 53·126, E. coli ESBL, S. enterica CIP 60·62T, P. aeruginosa CIP 82·118, B. catarrhalis CIP 73·21T, H. influenzae CIP 102514*

Virus: *HSV-1, H1N1, Adenovirus type 3, SARS-CoV-2*

Fungi: *C. albicans DSM 1386*

IN SITU ANTIMICROBIAL BENEFITS

Two in situ experiments were conducted under real-life conditions during working hours. The culture protocol and laboratory testing followed standardized antimicrobial testing to ensure the findings' validity, comparability, and reliability. In the first in situ experiment (ISO 8 room), the tests were repeated seven times on five different high contact areas (five with and five without ACTIVATED COVERSAFE™, an adhesive film with the Pylote's technology) at specific times over a period of three months, while in the second (high school self-service), they were performed once on three high-touch areas (three with and three without ACTIVATED COVERSAFE™).

The results show a significant reduction of contamination on high-touch surfaces covered with ACTIVATED COVERSAFE™ film compared to the uncoated surfaces. The antimicrobial activity remained sustainable under in situ test conditions. These results obtained under real-life conditions confirm those obtained during in vitro tests and demonstrate the effectiveness of the antimicrobial activity of the mineral oxide microspheres under standard and environmental conditions.

Read the full publication

pharmaceutics

an Open Access Journal by MDPI

Demonstrating the In Vitro and In Situ Antimicrobial Activity of Oxide Mineral Microspheres: An Innovative Technology to Be Incorporated into Porous and Nonporous Materials

Katia Iskandar; Sophie Pecastaings; Céline LeGac; Sylvie Salvatico; Catherine Feuillolay; Mylène Guittard; Loïc Marchin; Marc Verelst; Christine Roques

Pharmaceutics **2023**, Volume 15, Issue 4, 1261

Real-life conditions tests on ACTIVATED COVERSAFE™ realized by Bureau Veritas - @Gergonne Industrie

A SAFE & SUSTAINABLE TECHNOLOGY

- No nano, no metal, no release
- Fully Mineral composition, present in nature
- Permanent and not photo-activated efficiency
- Biocompatible: no irritation for the skin (ISO10993-10) & non cytotoxic (ISO10993-5)
- Certified Food Contact, including the EU regulation 1935/2004
- "Generally Recognized As Safe" by the FDA
- Authorized for pharmaceutical parenteral applications, including in the European Pharmacopea
- Ecocert / Cosmos certified

European Pharmacopoeia · FDA GRAS · JIS Z 2801 · ISO 22196 · ISO 20743 · ISO 21702 · ISO 18184 · ISO 10993-10 · ISO 10993-5 · ECO CERT

EXAMPLES OF ACTIVATED PRODUCTS BY THE PYLOTE'S ANTIMICROBIAL TECHNOLOGY

Activated Rispharm™: An ophthalmic dropper that reduce infection risk

Pylote has partnered with US-based Berry Global to launch Activated Rispharm, the first multi-dose dropper with antimicrobial protection. The use of multi-dose droppers always poses a risk of infection in the ophthalmic field, as the tip and cap can easily come into contact with an contaminated area and become a way of potential infection.

To overcome this problem, two solutions have been proposed until now: the use of preservatives that do not eliminate contamination on the tip or the drop delivered (passage time too fast for the preservatives to have an effect) and the use of single-use packaging, which leads to over-consumption of plastic (x 16 over a same period of treatment compared to a multi-dose dropper).

Activated Rispharm™ is a new generation eye dropper that consists of a standard plastic bottle, cap and tip whose plastic material has been activated by Pylote's technology. These mineral beads act as catalysts, causing micro-

> *This new partnership is incredibly exciting for us in the world of ophthalmic to further protect patients, provide them comfort while dispensing the drug and supporting further adherence to their treatments. This disruptive antimicrobial technology from Pylote combined with our market leading ophthalmic packaging design is a first-to-market for multidose droppers with added sustainability benefits, and is one significant example of our customer promise – Innovation for the World. Solutions for You. We believe that this collaboration is an important first step in delivering the future innovation for ophthalmic patients and their healthcare providers.*
>
> *Tom Salmon, CEO at Berry Global*

bial decontamination on the surface of the materials that contain them with a high level of safety, efficiency and hygiene throughout their use.

For patients, the benefits are numerous, such as reduced risk of ocular infection/superinfection, the possibility of having hygienic applications for each use of their multi-dose dropper, no change in treatment methods and access to a fully compliant, stable and biocompatible technology, certified non-irritant and non-cytotoxic (ISO10993:2010). The new ophthalmic dropper has proven its effectiveness against Adenovirus type 3 (conjunctivitis) and the bacteria Escherichia Coli and Staphylococcus aureus.

> *Partnering with Berry Global was a major step in our commitment to sustainably protect people. Berry Global offers a rich portfolio of healthcare devices for many applications. Our mineral technology, which is positively perceived by consumers, is an effective, robust and safe disruptive antimicrobial solution. I see tremendous value for existing and future patients in the combination of our two expertises through our combined offerings. We are now able to provide fully operational, responsible and safe solutions with an immediate impact on patient safety and comfort*
>
> *Loïc Marchin, CEO at Pylote*

Activated Mascara: The first refillable antimicrobial mascara that offers safety, hygiene and eco-design

Activated Mascara™

Pylote, in collaboration with Somater, which manufactures polymer primary packaging for the cosmetics industry, and SIMP, an expert in the development and manufacture of innovative plastic mascara brushes, announced at the PCD trade show dedicated to perfumes and cosmetics, during Paris Packaging Week 2023, on January 25 and 26, the signing of a partnership to produce the first antimicrobial refillable mascara, which aims to prevent risks associated with the refill of the mascara.

Assembled by Somater, this new mascara incorporates a bio-based plastic brush developed by Simp and Pylote's unique metal-free, nanoparticle-free antimicrobial mineral technology in the shaft and brush.

> *This strategic partnership with PYLOTE and SIMP allows SOMATER to strengthen its mascara offer to its historical customers who are looking for more hygiene, safety and eco-design. This new "Activated mascara", also available in its CTA® version, reduces polymer by 30% from the second use. This innovation is perfectly in line with the CSR approach initiated by SOMATER since 2020.*
>
> *Felix Hubin, CEO at Somater*

This new mascara offers the market unprecedented competitive advantages in terms of consumer protection, durability and sustainability, with a response to consumers' needs for products that are environmentally friendly, hygienic and safe for their health. It will also reduce plastic waste by approximately 30% after the second use compared to non-refillable mascaras. This innovation is not expected to require any changes in packaging design or existing manufacturing/filling processes.

> *This innovative partnership with PYLOTE and SOMATER is a great opportunity to answer the ecological concerns around cosmetic packaging and polymer consumption. By incorporating antimicrobial technology in its biosourced brush, SIMP is loyal to its DNA: Agility and Innovation*
>
> *Alain Lambrisset, CEO at Simp*

The shaft and brush have been successfully tested in independent laboratories. Activated Mascara showed a very significant reduction in the number of bacteria on both the stem and brush, with nearly 99.99% of the bacteria disappearing from the surface of the stem and 99.9999% from the brush (results based on JIS Z 2801 standard).

> *This partnership with SOMATER and SIMP is representative of our strategy of deploying our unique mineral antimicrobial technology in new applications with an immediate impact on hygiene, safety, comfort and sustainability for increasingly demanding consumers. I am convinced that this consumer demand will continue to accelerate in view of the studies on eye infection problems, which show that the proven risks of microbial contamination are linked to the use of products with potential contact with the eyes*
>
> *Loïc Marchin, CEO at Pylote*

Woman applying mascara on her eyelashes

INTERVIEW OF BERTRAND GENUYT, PRESIDENT OF MAPA SPONTEX, ABOUT THE STRATEGIC PARTNERSHIP WITH PYLOTE TO COMMERCIALIZE ANTIMICROBIAL PROTECTIVE GLOVES

What will this strategic partnership bring to MAPA?

Bertrand Genuyt: *"This strategic partnership with Pylote enables MAPA Professional to develop innovative gloves, activated with Pylote's mineral technology, which effectively protect users and limit the risk of cross-contamination, while being environmentally friendly. These developments are perfectly in line with the Corporate Social Responsibility approach initiated within the group over the last few years."*

Why have you chosen Pylote?

Bertrand Genuyt : *"First of all, this partnership provides an innovative response to the issue of cross contamination by viruses and bacteria, by combining MAPA Professional's expertise in hand protection and PYLOTE's innovation in antimicrobial protection.".*

"Also, as the safety and the environment matter for MAPA Professional, choos-ing the antimicrobial mineral technology developed by PYLOTE, produced by green chemistry, was an obvious choice. We succeeded in integrating this natural solution into one of our gloves whilst maintaining its well-proven performance."

Do you already have a product on the market following this strategic agreement?

Bertrand Genuyt : *"With our partner Pylote, we recently announced the launch of Activated Alto 405, a unique antimicrobial liquid proof glove that limits the cross contamination by viruses and bacteria. Embedding Pylote's patented antimicrobial mineral technology, this glove is ideal for cleaning tasks in environments where proliferation of microbes is a key issue. Aiming to ensure permanent antimicrobial action, this new protective glove will be a protective shield for both user and surface protection by destroying 99% of viruses and 99.99% of bacteria (results based on ISO 21702:2019 and JIS Z 2801 standards)".*

The Pharmaceutical Post

INDUSTRY NEWS
IN DEPTH-FOCUS
TECHNICAL PAPERS
INTERVIEW

Subscribe now

200€

1 year subscription

- 4 printed issues
- 1 annual guide
- 6 digital supplements

370€

2 years subscription

- 8 printed issues
- 2 annual guides
- 12 digital supplements

Follow us on social media

+33 (0)1 88 61 07 12
contact@thepharmaceuticalpost.com

www.thepharmaceuticalpost.com

Activated Coversafe™: a protective film developed since Covid-19 pandemic

In collaboration with the French company Gergonne Industrie, Pylote has developed in 2020 a plastic film called Activated Coversafe™ that protects surfaces from bacteria, including COVID-19, able to kill germs of gastro-enteritis, influenza, herpes and even coronavirus. More than 1,000 companies (including healthcare facilities), businesses, local authorities and schools/universities are today equipped in 26 countries.

> *We are proud to use a revolutionary French technology and to combine it with the very strong know-how of our teams in the field of adhesive solutions. To combat this health crisis, we lacked masks and tests, but we now have a 100% French European solution, unique in the world to our knowledge, to treat the risk of viral and bacterial spread through surfaces. COVERSAFE™ is a product that makes it possible to work and live more safely, and to avoid the risk of a resumption of the pandemic we are experiencing.*
>
> *Bertrand and Charles Gergonne,*
> *Managing Directors*
> *at GERGONNE INDUSTRIE*

Activated Coversafe™ can be installed on tables, counters, switches, door handles or a staircase banister. Any surface that could be a vector for microbes can be equipped with this product. It is a solution easy to implement, that one can install oneself and which contribute to reduce the risk of contamination transmission, in order to better protect the populations and to participate in the limitation of the risk of infection.

The main property of this adhesive film is the maintenance of microbiological hygiene throughout the life of the surfaces to which it is applied. It does not present any risk for users, including young children. Activated by PYLOTE's technology, it has an immediate, stable and permanent microbial decontamination action, and helps to combat the spread of hand-borne infections.

Our technology is particularly suited to protect living spaces in general, such as nurseries, schools, shops, businesses, administrations, clean rooms, hospitals or retirement homes. This first market launch (ie 2020) of our technology illustrated our development around two major axes: making finished products safer, cleaner and greener, and better protecting environments against antimicrobial risks, including the ability to eliminate contamination in living areas and better respond to the problems of transmission by surface contact

Loïc Marchin, CEO at Pylote

The main property of this adhesive film is the maintenance of microbiological hygiene throughout the life of the surfaces to which it is applied. It does not present any risk for users, including young children. Activated by PYLOTE's technology, it has an immediate, stable and permanent microbial decontamination action, and helps to combat the spread of hand-borne infections.

Activated Masks: Activated Airxôm and Activated Le Bouclier

Activated Airxôm : The first respiratory mask with microbial decontamination action

At CES in Las Vegas in January 2023, Pylote signed a strategic partnership with the French medtech Airxôm, based in Villeurbanne, to provide antimicrobial respiratory masks with immediate microbial decontamination action. This achievement is made possible by incorporating Pylote's antimicrobial mineral technology into the outer shell and inner membrane of Airxôm's masks.

The innovation addresses a very large market, knowing that in France 20% of the population suffers from respiratory allergies, that asthma alone affects about 4 million French people, not to mention the million employees working in the health sector.

Masque AirXôm - @Airxôm

Activated Le Bouclier: The 1st biocide mask in high protection fabric UNS1

Pylote partnered in 2021 with Biotex Technologie and Occitanie Protect, both specialized in the design and marketing of protective equipment, to provide professionals in contact with the general public with UNS1 high protection fabric masks incorporating its antimicrobial technology.

Washable and reusable 50 times, Activated Le Bouclier masks are distributed to category 1 professionals, i.e. those in contact with the general public. These fabric masks are therefore effective against viruses. Pylote's technology works like a protective shield that considerably reduces the transmission of viruses and bacteria on contact.

@Biotex Technology

BIOLOGICAL EVALUATION OF MEDICAL DEVICES

conforme norme ISO 10993-5

NO CYTOTOXICITY

conforme norme ISO 10993-10

NO SKIN IRRITATION

PYLOTE AT A GLANCE

Founded in 2009 and based in Toulouse, France, Pylote is a key player in the cleantech industrial mineral chemistry, recognized worldwide for its sustainable disruptive innovation.

Pylote helps protect people and their well-being by reducing the transmission of contamination and the risk of infection by activating continuously shared surfaces and repeatedly used products to kill microbes.

Pylote develops, produces and markets a unique patented natural protection solution, from process to application, which solves the problems encountered by consumers in terms of safety, hygiene and sustainability. Its unique solution is dedicated to different markets such as healthcare, cosmetic, building and consumer goods. Pylote deploys its preventive approach by integrating regulatory, marketing

Handling of Coversafe film Pylote Laboratory - @Pylote

Pylote mineral microspheres - @Pylote

and industrial steps in its offer to generate a powerful value proposition in a rapid time-to-market, without any investment or change in the product manufacturing process. The efficacy of Pylote natural antimicrobial technology has been tested through independent laboratories and has demonstrated its effectiveness on a very large number of microorganisms specific to the technology's applications sectors, in vitro and in real life. It is notably effective against bacteria, fungi, viruses, like SARS-CoV-2 strain, which is the virus responsible for COVID-19, and conjunctivitis, gastroenteritis, influenza viruses as example.

Pylote's technology has been commercialized in the market since 2020 in various industries through specific developments and licensing agreements with industry partners and brand owners responsible for selling the benefits of the products activated by the antimicrobial technology.

Pylote's technology complies with international regulations for cosmetics, pharmaceuticals, food and is GRAS listed "Generally Recognized as Safe" by the FDA. Since 2016, Pylote won several awards and international awards including Pharmapack Award, CPhl Pharma Award, the Oscar for Packaging for Food Applications, CSR Solutions Trophy, MakeUp in New York Tree Innovation Award.

A DISRUPTIVE TECHNOLOGY COMMERCIALIZED IN TARGETED INDUSTRIES SINCE 2020.

Since June 2020 in Activated Coversafe™, an antimicrobial self-adhesive films manufactured and marketed by Pylote's partner Gergonne Industry applicable on tables (manufacturing site, meetings, restaurants, offices), counters/windows, door handles, switches, stair rails, handrails, automatic terminals and payment terminals. More than 1,000 companies, businesses, local authorities and schools/universities are today equipped in 26 countries.

ADHETEC transparent antimicrobial antivirus film IFE-logos - @Adhetec

Since September 2020 in special self-adhesive films, manufactured and marketed by Pylote's partner Adhetec, for airlines to protect seat shelves and IFE screens in aircraft cabins. First flight in September 2020 of a Corsair aircraft with meal shelves protected by this self-adhesive film with Pylote's natural antimicrobial technology.

Since February 2021 in high protection UNS1 fabric masks, manufactured by Pylote's partners Biotex Technologie & Occitanie Protect.

Since December 2021 through a strategic business partnership with Toppan, a global solutions provider of next generation virtual and physical smart cards and secure documents, to provide card users with an unprecedented innovative response to the problem of contamination and microbial transmission.

These cutting-edge plastics cards activated the Pylote's antimicrobial protection will apply to a variety of applications, such as Banking & Payment cards, Transport & Access cards and Commercial Cards, such as gifts and fidelity.

Toppan Gravity & Pylote Announcement DEC 2022- @Toppan

Pool desk protected by Activated Coversafe - @Gergonne Industrie

Coversafe Preschool - @Gergonne Industrie

Since June 2022 in the pharmaceutical industry, through a strategic partnership with US Company Berry Global, a leading provider of innovative packaging and engineered products, to introduce Activated Rispharm, a multidose eye dropper with nozzle and cap activated to kill bacteria and viruses continuously to deliver hygienic doses at each use and thus, to reduce infection risks. Activated Rispharm was awarded the Exhibitor Innovation Award for Packaging Innovation at Pharmapack 2022.

Since January 2023 through a partnership with Airxôm, a French MedTech, to develop & commercialize unique antimicrobial protective respiratory masks.

Since January 2023 in the cosmetic industry, through a partnership with Somater, experts in the manufacture of primary polymer packaging for cosmetic industry, and SIMP, experts in the development and manufacturing of innovative plastic mascara brushes, to provide the first antimicrobial refillable mascara with immediate, stable and permanent microbial decontamination action to uniquely prevent the risks associated with the transmission of microbe.

Since June 2023 following a strategic partnership announced in December 2022 with Mapa Spontex, a leading player in the protective glove market, to commercialize antimicrobial protective gloves. Commercialization of Activated Alto 405 is the first unique antimicrobial glove that is waterproof, liquid resistant, and limits cross-contamination by viruses and bacteria.

pylote

www.pylote.com
+33 5 31 61 66 65
contact@pylote.com