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PRESS RELEASE

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Thanks to Foga blankets, fire extinguishers can be substituted in numerous establishments and homes, with scientists from Charles University contributing to the technology.

Prague, April 10, 2024 - Charles University, on behalf of its subsidiary Charles University Innovations Prague, Inc. (CUIP) and the company Walk on Water Ltd., introduces fire blankets that cannot cause burns. Leveraging technology founded on cutting-edge scientific discoveries, these blankets emerge as a novel product in the marketplace, boasting firefighting capabilities comparable with conventional fire extinguishers, a claim validated by a certification authority.

Foga is a clean and safe option offering a modern alternative to fire extinguishers. It finds application in manufacturing, gastronomy operations, laboratories, but also in households. The material is made of 100% cotton, engineered to maximally absorb the contained extinguishing agent. In parallel, it employs the technology of a thermal shield, formed by scientists from the First Faculty of Medicine at Charles University in the BIOCEV center, which ensures the effect of a safe, thermally impermeable layer thanks to stabilized metal nanoparticles.

"The Foga fire blanket, a result of research in nanoformulations, is a successful example of the cooperation between science and industry. I am pleased that our technology could contribute to the creation of a product that can protect lives and property," says Assoc. Prof. Milan Jakubek, head of the Laboratory of Medicinal Chemistry at the First Faculty of Medicine, Charles University in BIOCEV.

The Foga fire blanket removes, reflects and absorbs 92% of heat, indicating that temperatures under the blanket can reach up to 500°C, while the surface above

remains at a measured temperature of up to 37°C. Foga embodies a dual approach to extinguishment: isolating the fire from oxygen and extracting heat. Additional advantages include its capability to shield from heat and absorb smoke.

"Foga blankets were created with the goal of making every user a professional in extinguishing fires. It was crucial that we create a fully functional product, therefore all thermal resistance testing was overdimensioned and conducted under continuously fed fire. It was a kind of a stress test for Foga, considering the thermal stress in real situations is never of such intensity. This allows us to assert with confidence that Foga qualifies as a professional grade firefighting tool," states Petra Gottwald, co-founder discussing the fire blanket innovation.

The blanket was developed primarily to increase motivation to intervene in the event of a fire, as it is very easy to use, does not cause any secondary damage, and is always at hand. Moreover, it protects the user from heat like a shield. Using a traditional fire extinguisher raises concerns, as it requires certain skills and always entails the risk of fatal contamination in the vicinity of the fire. Using the blanket is significantly easier for any extinguishing and eliminates the spread of fire through improper handling, as often happens with incorrect use of a fire extinguisher.

Foga passed the fire extinguishing capability test according to selected articles of the standard ČSN EN 3-7 +A1 for fires of flammable liquids in test object marked 21B (a pan with a diameter of 94 cm with 21 liters of 2/3 flammable liquid - heptane after 1 minute of ignition), and for fires of oils and fats in test object 5F (5 liters of oil with an ignition temperature of 380°C after 2 minutes of ignition).ktu 5F

"Likewise, the 92% reflectivity and absorption of thermal heat, which the manufacturer declares on the package, was confirmed," states Lukáš Blaha, BSc., a testing technician and fire protection sector guarantor at the Engineering Testing Institute, public company in Brno, accredited for the certification of fire extinguishers.



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"The entire implementation team managed to create a truly unique product, unmatched in the current market. Prior to this, no fire blanket capable of diminishing heat by 92% or effectively sealing off a fire had been developed. At CUIP, it is always a source of pride when we can facilitate the transfer of technology that subsequently makes a tangible difference in society," complements Kateřina Šolcová, business and technology director at Charles University Innovations Prague, Inc.

Behind this project are Petra Gottwald and Michal Jedlička, owners of Walk on Water, who, in partnership with the Kubák Weaving Mill in Strmilov and scientists from the First Faculty of Medicine at Charles University and BIOCEV, have infused their passion for chemistry with a mission to contribute positively to the world.

"On behalf of Charles University, I wish to express our profound gratification for the opportunity to witness the manner in which contemporary science propels us forward, and to acknowledge the scientists whose pursuit of knowledge has enabled such technological advancements," expressed gratitude to the scientists, the Rector of Charles University, Milena Králíčková.

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Walk on Water Ltd.

Walk on Water Ltd. is a company where we seek ways to make approaches to fire safety more efficient. We create products based on the latest scientific knowledge and believe that nothing is impossible... maybe we can Walk on Water.

For more information about Foga, visit: www.foga.cz



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Charles University Innovations Prague (CUIP) is a subsidiary of Charles University. CUIP is an organization for technology transfer, whose main objective is to transfer innovations and technologies developed at Charles University into practical application. As part of the technology transfer process, CUIP manages activities such as the protection of intellectual property and the analysis of technology utilization for business, industrial, and similar purposes, thus facilitating their commercialization. Since its establishment, CUIP has contributed to the creation of several spin-off companies, such as Charles Games, Genespector, and FutureBooks.

For more information about CUIP, visit: www.cuip.cz.

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The First Faculty of Medicine of Charles University is the largest of the Czech medical faculties, attended by over 4,500 students. The fundamental study programs include General Medicine and Dentistry, besides which the faculty offers studies in other healthcare fields, specialization and lifelong learning, and a range of doctoral programs. Each year, more than 300 new doctors graduate from the First Faculty of Medicine at Charles University. The faculty is also the most productive institution in biomedical and clinical research. Scientific work, undergraduate and postgraduate teaching takes place at 75 theoretical departments and clinical sites shared with the General University Hospital, Motol University Hospital, Central Military Hospital, Thomayer University Hospital, Bulovka University Hospital, and other interdisciplinary centers. The First Faculty of Medicine also participates in the research programs of BIOCEV – a European scientific center of excellence in the fields of biotechnology and biomedicine – and the Albertov Campus project, focused on the development of excellent scientific and educational activities of Charles University in the fields of natural and medical sciences.

More information at: www.lf1.cuni.cz

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BIOCEV is a joint research facility of the Academy of Sciences and Charles University, located in Vestec near Prague. Since its establishment in 2016, it has successfully attracted a number of leading scientists from abroad, including Czechs who have gone abroad to gain experience. Under one roof, experts in virology, parasitology, genetics, tissue engineering, molecular biology, and medicinal chemistry converge. The goal of more than 500 scientists and students from around the world is the detailed understanding of organisms at the molecular level. Their findings contribute to the research and development of new drugs and treatment methods against serious health issues such as cancer, diabetes, infertility, or viral diseases including COVID-19. Coupled with top-notch equipment, BIOCEV is a center of excellence in basic research, actively linked with teaching and educating master's and doctoral students, and emphasizes collaboration with the industry.

More information at: www.biocev.eu