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MARKET SHEET

Green Decon Foam

Green Decon Foam offers a convenient, non-toxic, environmentally friendly solution to neutralize hazardous materials in public areas with minimal residue

Patent pending

Technology Readiness Level (TRL) 4

Business Problem

Chemical and biological contaminants pose serious risks to public health, creating a growing need for effective, environmentally friendly decontamination solutions that do not leave harmful residues in public spaces. Traditional cleaning and decontamination products often rely on harsh chemicals that can damage surfaces and pose health risks. For example, conventional decontamination foams may contain quaternary amines, which can have adverse effects on human health.

Additionally, many existing products require significant storage space and complicated transportation logistics, making them impractical for widespread use in high-traffic areas. There is a need for a decontamination solution that effectively sanitizes surfaces while being safe and environmentally friendly.

Customer Need

Facility managers, public health officials, and cleaning service providers are seeking a decontaminant that meets several key criteria. The product must effectively neutralize a broad spectrum of pathogens without compromising surface integrity. It needs to be safe for repeated use in public environments like schools, hospitals, and transportation hubs. The formulation must leave little harmful residue, avoiding the issues associated with traditional cleaning agents. The product should be easy to store and transport, reducing the overall footprint in terms of space and weight requirements.

Sandia Approach

Sandia researchers have developed Green Decon Foam by modifying the existing DF-200 decontaminant formula. This new formulation is a sprayable decontaminant designed for routine application in public areas while leaving low residue after use. This peroxide-based solution incorporates surfactants like Xanthan Gum to enhance its efficacy. It does not contain liquid hydrogen peroxide, which can be challenging to ship in any concentration. Instead, it uses food and cosmetic-grade materials along with ultra-high purity (UHP) components, making it easier to transport and gentler on surfaces, leaving behind minimal residue that is easily manageable.

Competitive Advantage

Green Decon Foam provides several key advantages over traditional cleaning products. It is engineered to minimize residue, enhancing the aesthetic appeal of treated areas compared to broad-spectrum chlorine-based oxidizers and quaternary amine disinfectants, which can react with surfaces and leave undesirable residues. The product is less toxic and corrosive, making it safer for users and the environment. It has a reduced storage and transportation footprint, facilitating effective cleaning protocols without the burden of bulky supplies. This versatile formulation is suitable for a wide range of surfaces and environments.

Benefits

Green Decon Foam offers:

- **Sanitization**: The decontaminant effectively neutralizes pathogens, enabling a high standard of cleanliness in public spaces.
- **User-Friendly:** Its safety profile allows for frequent use, reducing health risks associated with traditional cleaning agents.
- **Environmentally Friendly:** The formulation is biodegradable and non-toxic.
- **Efficiency:** The compact product simplifies storage and transportation logistics.

Industries & Applications

- **Healthcare facilities**
- **Schools**
- **Public Transportation**
- **Food Service**
- **Public spaces**

Green Decon Foam effectively sanitizes surfaces, is environmentally friendly, and leaves minimal residue that is easy to manage.

Next Steps

Sandia is seeking partners to develop and commercialize this technology. For more information, please contact Sandia National Laboratories' Licensing and Technology Transfer office.

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Sandia National Laboratories

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