

TECH OFFER

A Novel and Natural Anti-Pathogenic Formulation



KEY INFORMATION

TECHNOLOGY CATEGORY:

Chemicals - Organic

Healthcare - Pharmaceuticals & Therapeutics

Life Sciences - Biotech Research Reagents & Tools

TECHNOLOGY READINESS LEVEL (TRL): **TRL5**

COUNTRY: **SINGAPORE**

ID NUMBER: **TO175111**

OVERVIEW

The core technology is of a formulation that is an effective natural water based iodine multi-pathogenic solution that is designed to destroy various pathogens quickly. Although, the active ingredients are present at low levels, this formulation has been successfully demonstrated to provide protection and is registered for use as a chemical disinfectant. The IP involves the creation of a formulation that is novel in having a different and versatile broad spectrum ability to destroys different pathogens and their accompanying cellular survival structures simultaneously and quickly. It functions using diverse mechanisms of action via oxidative and complexation reactions. Additionally, multiple prongs of attack leave little time to mount or develop resistance mechanisms, potentially hindering chances of resistant strains emerging.

It is anticipated that it would be widely used in a variety of settings for personal care and health care applications. Users to date have reported its successful application on a wide range of use cases e.g. for oral use, skin care, wound healing and as disinfectants. The technology owners are seeking partners to carry out test-bedding the various consumer claims in clinical trials,

as well as carry as R&D collaboration to further explore new applications. They are also seeking partners who would be able to quickly manufacture and distribute our formulation.

TECHNOLOGY FEATURES & SPECIFICATIONS

The active ingredients are naturally derived and are present at extremely low concentrations (following UN food safety guidelines).

Safe and non-toxic, with ingredients that are largely not alien to the human body. The formulation effectively targets various types of pathogens simultaneously, using different mechanisms depending on the pathogenic species involved. It causes severe oxidative damage to chemical structures on various pathogens, affects multiple target structures within micro-organisms, eg enzymes, membranes, other essential cellular survival components simultaneously.

POTENTIAL APPLICATIONS

The potential applications are in the realm of personal care and general healthcare. The technology is registered for use as a chemical disinfectant for oral use and consumers have reported other off-label uses for different ailments notably non-exhaustive such as:

- Quickly alleviating symptoms of coughs, sore throats, colds
- Cleans, disinfects wounds, cuts, abrasion
- Promote wound healing by preventing infections eg burns, deep wounds, leaving minimal scarring and thus allowing the skin to be restored to its natural smoothness and texture
- Topical applications on skin e.g. eczema, acne (reduces bacterial infections quickly, leaving minimal or no scarring)
- Dental application: mouth odors control and mouth ulcers
- Effective smell removal eg fishy, putrid odours

UNIQUE VALUE PROPOSITION

The unique value proposition of our formulation is that it has **anti-viral, anti-bacterial and anti-fungal properties**. It is able to confer anti-inflammatory effects thus allowing the body's immune system to act effectively allowing its natural healing process to take place. During the recent pandemic, consumers have shared anecdotal evidence for its rapid and successful use on both a host of different gram positive and gram negative bacteria and on various strains of the Covid-19 virus.

The **fast speed of these reactions** to destroy and disrupt the structures of pathogens severely as well as its accompanying survival structures creates a hostile/challenging environment for survival and resistance. These **multiple prongs of attack** (unlike antibiotics tend to target specific biochemical pathways or biological structure) leave little time to mount or develop resistance mechanisms, hindering chances of resistant strains emerging.

The formulation is **eco-friendly and naturally biodegradable** which allows for its use in emergency water disinfection and is least harmful to aquatic life and ecosystems.

Generally it would be expected to be more **cost effective** compared to other types of disinfection methods as we require smaller amounts of final product and use inexpensive raw materials for the formulation.