

R,D & C Initiatives on Nature Inspired Antiseptic and Disinfectant related Products.

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ISO 9001 : 2008
www.frim.gov.my

Developing Armamentarium against Pathogenic Microbe: A Race Against Time.

- To a vast majority of public, usage of antiseptic and disinfectant related products has become a daily routine.
- Beside cleansing these products contains microbiocide (the active ingredient capable of inhibiting the microbe) → hence protecting the user from infection
- Highly bio-acumulative, the prolong use of triclosan (common microbiocide used in toiletries and home care products) has been associated with hormone disruption and cancer initiation.
- Man's armamentarium to fight infection has become significantly less in both number and power due to safety related issues coupled with the multi drug resistance phenomenon (amongst the pathogenic microbe)
- Thus developing safer antiseptic and disinfectant related product using alternative microbiocide is indeed a race against time.



PROSPECTING FOR ANTIMICROBIAL BIOACTIVES

BIORESOURCES :

c.a 1800 extracts from 385 species

c.a 500 formulation, semi & pure
compounds



TARGET MICROBE :

Multi drug resistant *S.aureus* (MRSA)

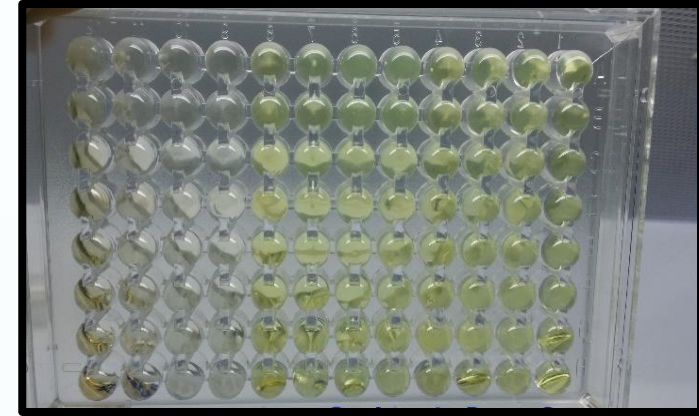
Skin infections related microbes

Product contaminant microbes

PROSPECTING FOR BIOACTIVES : BIOASSAYS

5 main assays:

- (i) Qualitative ('Single Concentration Test')
- (ii) Quantitative (Minimum Inhibitory Concentration)
- (iii) Inhibitory type determination (cidal/static)
- (iv) Interaction type determination (synergy/ additive/ antagonist)
- (vi) Compatibility/ challenge test



PDM3 → Nature inspired microbiocide as a safer alternative to triclosan

Chosen due to :

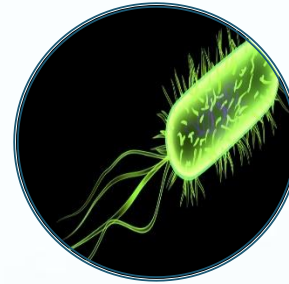
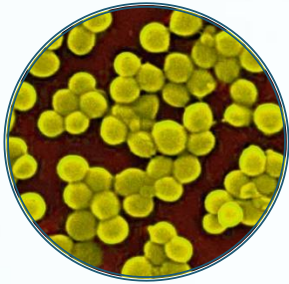
- (i) Low MIC value and inhibition type
- (ii) Safety profile
- (iii) Compatibility with other product ingredients



EXTRACTS FROM
ALOE VERA
& GREEN TEA

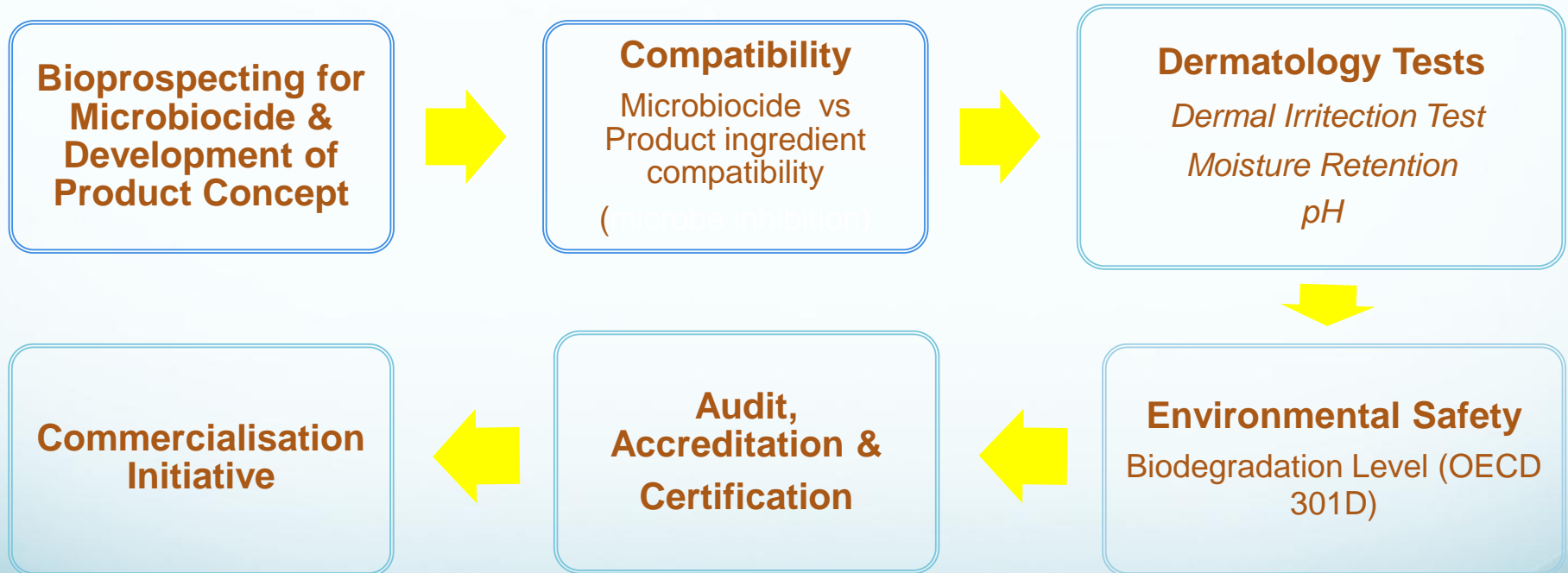


PDM3 INHIBITORY PROFILE



Microbe	*Action time (second)	Inhibitory %
Methicillin resistant Staphylococcus aureus (ATCC 33591)	5	99.9%
Community acquired MRSA (BAA 1556)	5	99.9%
Pseudomonas aeruginosa (ATCC 27853)	5	99.9%
Escherichia coli (ATCC 8739)	5	99.9%
Bacillus cereus (ATCC 11778)	5	99.9%
Salmonella typhimurium (ATCC 14028)	10	99.9%

ACTIVITY FLOW & PROCESS



DISINFECTANT PRODUCT RANGE

Unique properties :

- (i) Kills 99.9% superbugs.
- (ii) Triclosan, SLS, SLES and Paraben Free
- (iii) Multi-purpose – suitable for various type of surfaces- ceramic, glass, wood, steel etc.
- (v) Non drying and non irritant to the skin.
- (vi) Low % volatile matter and highly biodegradable (OECD 301D) → Eco friendly.



Ciera® Ecofriendly Multipurpose Disinfectant -800 ml concentrated



Ciera® Ecofriendly Multipurpose Spray - 500 ml concentrated

ANTISEPTIC PRODUCT RANGE

- Suitable for hypersensitive skin (Dermatologist tested).
- 100% natural & non irritant
- Toxic chemical free (eg : Triclosan, SLS, SLES & Paraben)
- Low % volatile matter and highly biodegradable (OECD 301D) → Eco friendly.



ORGANIC CERTIFIED ANTISEPTIC PRODUCT RANGE

Ciéra Junior Certified Organic Baby Care

- 2 products i.e head to toe wash and antiseptic lotion
- For babies, toddlers and adult.
- Hipoallergenic (Dermatologist tested). Suitable for sensitive skin.
- Triclosan and paraben free.
- Organic Certified Baby Care Product (ECOCERT by ECOCERT GREENLIFE SAS).
- Lotion: NOT 160900409K & NOT 160900410K. (Pharmaceutical Control Bureau, Malaysia Ministry of Health)



ACCREDITATION

- Notification number (NOT) Ministry of Health Malaysia → indicating products compliance to quality and safety standard set by National Bureau for Pharmaceutical Control.
- Product pH value, volatile organic content & capability to biodegrade naturally in the environment → eco certification (SIRIM).
- Highly biodegradable → prevent bioaccumulation mengelakkan kejadian akumulasi yang boleh mencetuskan kesan buruk dalam jangka masa panjang.
- HALAL certification → Jabatan Kemajuan Islam Malaysia (JAKIM).
- “Organic Certified” from France based EcoCert Organic Cosmetic.
- Malaysia MyHijau listing – government initiative to promote utilization of green products / technology amongst government agencies



BRANDING & COMMERCIALISATION

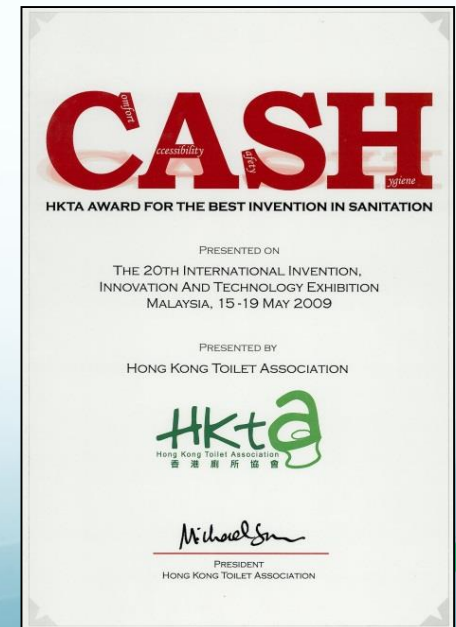


- Commercial scale production of disinfectant and antiseptic range products to penetrate the consumer market.
- Realised with Nature Profusion Sdn Bhd through synergistic collaboration.
- Brand name: Ciera® dan Ciera Junior™.



GALLERY: CELEBRATING LOCAL INNOVATION

- 1) 10 short listed projects – final screening for `Malaysia R&D Commercialisation Year 2016 (MOSTI) Award.
- 2) Best Innovation : `FRIM Innovation Day 2015
- 3) Best Innovation : FRIM Innovation Day 2014
- 4) Bronze Medal Award (BioInno Award 2010)
- 5) Best Invention in Sanitation from Hong Kong HKTA (2009)
- 6) Silver Medal Innovation Award (ITEX 2009)



MASS MEDIA COVERAGE

One up for FRIM

Research institute's eco-friendly products now available in Klang Valley

Nature Profession Sdn Bhd, a start-up company producing plant- and herbal-based household items, set up under the Forest Research Institute Malaysia (FRIM) and Malaysian Technology Development Corporation (MTDC) business incubator, has extended its distribution channels through a new agreement with Central Hypermarket Sdn Bhd to promote and distribute its products.

Under the agreement, Central Hypermarket will distribute Nature Profession products through its various outlets in the Klang Valley. The move will help spread the presence of the company's products in the market.

"This network is expected to provide the company with the market penetration required to reach our full sales potential. Nature Profession has considered many distribution partners and we are confident Central Hypermarket's wide range of top quality products on its shelves will help our



BIZNews

Multi-mergers FRIM corporate management head Norhayati Noridin and researcher Dr Wan Tarmawati Wan Ariffin were among the first to buy the eco-friendly products.

position in the market," said FRIM director-general Datuk Dr Abdul Latif Mohamad, who also chairman of Nature Profession.

Central Hypermarket started distributing Nature Profession's leading product, Ciera Eco-Friendly Multi Purpose Disinfectant, which was developed from FRIM's research, in all Jaya Grocer and Central Hypermarket outlets last week.

Ciera Eco-Friendly Multi Purpose Disinfectant is effective against common household pathogens in addition to danger-

ous "superbugs" MRSA (Methicillin-resistant Staphylococcus aureus) and VISA (Vancomycin-intermediate Staphylococcus aureus).

Developed using a unique plant extract mixture as its active ingredient, the product is an effective, yet safe and environmentally friendly antibacterial detergent.

According to Nature Profession, it has been proven to be non-irritant as well as non-toxic. Besides being safe and gentle on the skin, the hypochlorite-free formulation

is also non-bleaching and non-corrosive. Nature Profession, established on Dec 28, 2008, under the FRIM-MTDC Graduate Bio-Entrepreneur Development Programme (IMBioEd), has won numerous international awards including the Best Invention in Sanitation from the Hong Kong Toilet Association (HKTA) and ITEX Silver Medal Awards (2009).

The company was also recently awarded the Sirois Eco-Label Certification from Sirois QAS International.

Program FM anjuran FRIM lahi blousa

PRODUK USAHAWAN SISWAZAH

ECO-FRIENDLY MULTI PURPOSE DISINFECTANT

Leave a trail of eco-friendliness with every drop

SAINS GAPEL FLITS

Malaysia's Eco-Friendly Disinfectant

Ciera

ECO-FRIENDLY MULTI PURPOSE DISINFECTANT

PLANT-BASED ACTIVE INGREDIENTS

Leave a trail of eco-friendliness with every drop

FRIM

MTDC

Central Hypermarket

Jaya Grocer

Nasional 9

Komitmen Malaysia dikagumi peserta dari luar negara

Program Ciera yang kini didaftarkan sebagai produk alam yang selamat dan berkesan telah meraih sambutan yang positif daripada peserta dari luar negara yang menghadiri pameran produk alam yang dianjurkan oleh FRIM dan MTDC di Kuala Lumpur.

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Penyelidikan setahun cari bahan bunuh kuman

Menggabungkan bahan aktif dalam teh dan alo vera untuk menghasilkan bahan pembasmi kuman yang bukan hanya mesra alam, tetapi yang lebih penting selamat digunakan adalah sasaran utama syarikat Nature Profession Sdn Bhd yang beribu pejabat di Institut Penyelidikan Perhutanan Malaysia (FRIM), Kepong, Kuala Lumpur.

Dengan menghasilkan produk pebasmi racun di bawah jenama Ciera, syarikat itu yang menulakan perniagaan di bawah program graduan muda menjadi usahawan bio dengan memkomersialkan teknologi penyelidikan tempatan yang dikenali sebagai program FMBioEd.

Menekuti program di bawah Malaysian Technology Development Corporation (MTDC) business incubator, Nature Profession Sdn Bhd telah memperolehi pengiktirafan sebagai usahawan muda dengan pembangunan (R&D) FRIM.

Produk menceuk, basmi kuman, Pengurus Besar Nature Profession, Mohd Ramdan Furman, berkata produk beha-ruan syarikatnya itu sudah berada di pasaran sejak tahun 2012 dan ia bukan hanya untuk menceuk, tetapi juga membasmi kuman.

"Produk ini mendapat ke-

lulusan SIRIM Eco-Label Bio-degradable dan Amanan Pengalangan Baik (GMP), yang menjadi selamat digunakan bukan hanya kepada alam sekitar, tetapi peraguan sendiri," katanya ketika ditemui di pejabatnya di FRIM, baru-baru ini.

Penyelidik yang berjaya menemui bahan aktif dalam teh dan alo vera ini, Dr Mastura Mohar berkata beliau mengambil masa bertahun untuk mencari gabungan yang sesuai bagi menghasilkan produk yang mampu membasmi kuman.

"Untuk mencari bahan beha-ruan yang ada potensi membasmi kuman bucu mudah, ia menjadi lebih sukar apa-

Ushawan FRM

Produk Ciera ini dihasilkan melalui teknologi FRM dan didaftarkan dengan sijil paten, binaan atau lelester.

Ciera produk mesra alam

FRIM Penyelidikan Perhutanan Malaysia (FRIM) melalui Nature Profession Sdn Bhd (Nature Profession) memperkenalkan produk Alam yang Selamat dan Berkesan (Ciera) bagi pasaran di Lembah Klang.

Selama pameran, Datuk Dr Abdul Latif Mohamad berkata, Ciera adalah produk disinfektan mesra alam yang boleh digunakan untuk memelihara keselamatan kuantiti produk dan keselamatan di rumah.

Manutnya, ia diperbuat daripada campuran ekstrak tumbuhan asli yang berkesan untuk memulihkan keseimbangan ekosistem dan tidak membahayakan kesihatan manusia.

"Selain daripada selamat digunakan dan mesra pada alam, Ciera adalah produk yang selamat digunakan untuk memelihara kesihatan manusia dan memulihkan keseimbangan ekosistem."

Ciera adalah produk yang berkesan terhadap patogen acam dan superbug MRSA (Methicillin-resistant Staphylococcus aureus) dan VISA (Vancomycin-intermediate Staphylococcus aureus).

Beliau juga Pengurus Besar Nature Profession berkata,

COMMERCIAL OUTLET



@ >100 outlet hypermarket, pharmacy & on Line vendors



www.ciera.my





THANK YOU

