

Applications of bio-botanicals in health care products



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What are the purposes of anti-microbial health care products??

Cleaning, Disinfection and Sterilization

Cleaning

- General removal of debris (dirt, food, feces, blood, saliva and other body secretions)
- Reduces amount of organic matter that contributes to proliferation of bacteria and viruses

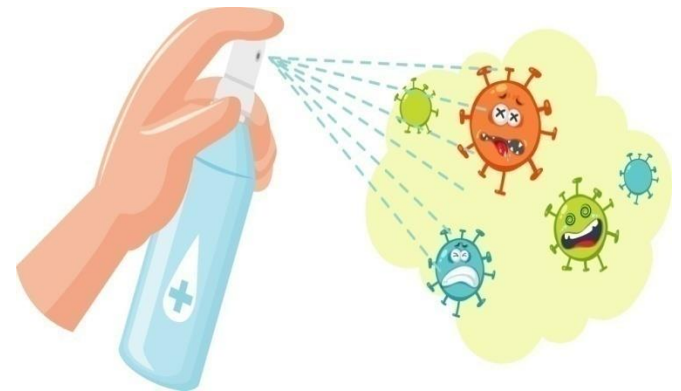


Disinfection

- Reducing the number of microbes on a surface to very low levels

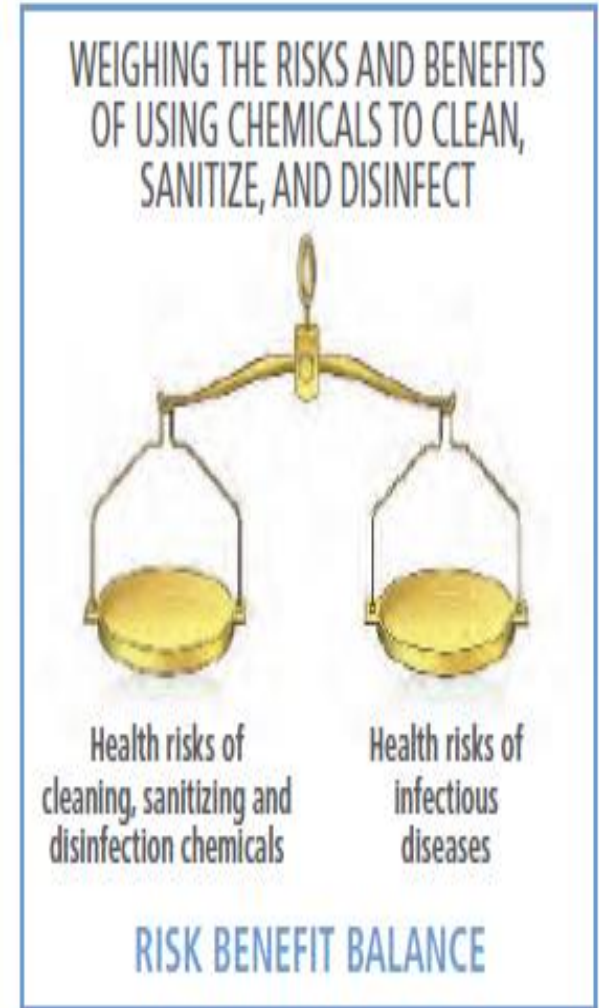
Sterilization

killing or removal of all microorganisms



Need of Herbal anti-microbial Health care products

- To maintain good hygiene, different anti-microbial health care products are being used
- Mostly health care products composed of harmful chemicals
- Hygiene is two-thirds of health.
- **Herbal health care products are free from harsh chemicals** also termed as natural disinfectants.
- The Herbal products contains natural oils & plant extracts.



Advantages of using herbal anti-microbial health care products

- ✓ They do not provoke allergic reaction & do not have negative side effects.
- ✓ With small quantity they are very effective as compared to synthetic ones.
- ✓ Easily available & found in large variety & quantity.
- ✓ Bio-degradable



Botanical anti-microbial health care formulation technologies developed by IPFT

CLEANING ALONG WITH DISINFECTANT

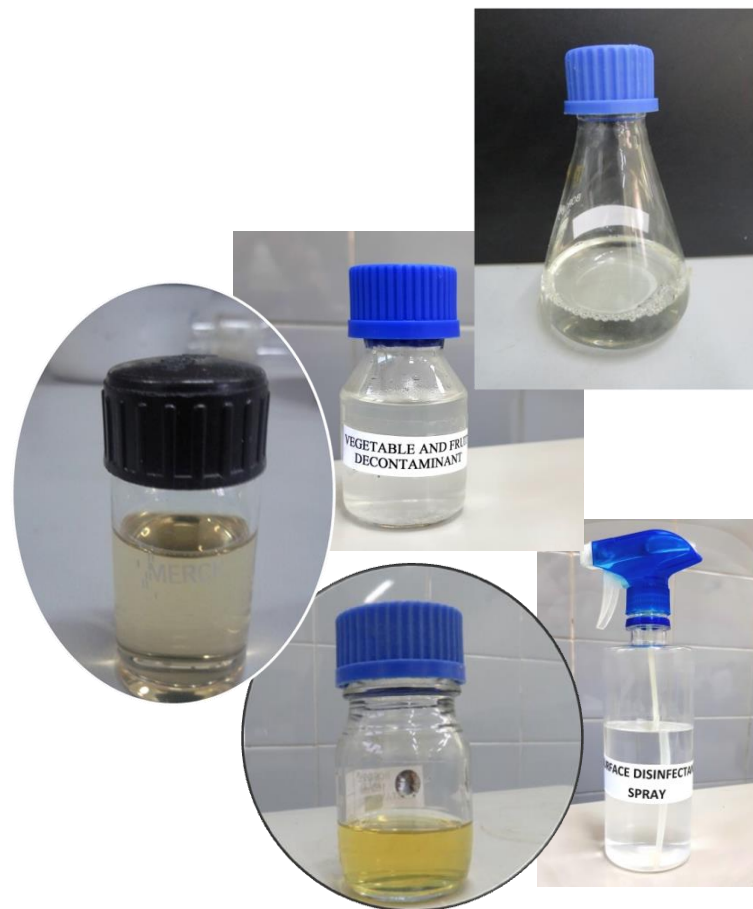
- ✓ FLOOR DISINFECTANTS
- ✓ MOUTH WASH
- ✓ FRUIT AND VEGETABLE DECONTAMINANT

SANITIZING

- ✓ BOTANICAL ANTI-MICROBIAL BASED HAND SANITIZER

DESINFECTANT

- ✓ HERBAL DISINFECTANT SPRAY
- ✓ BOTANICAL ANTIMICROBIAL MICROEMULSION FOR MEDICINE TEXTILE IMPREGNATION



NEED OF HAND SANITIZER

- Hands are major route for transmitting microbes
- The hand hygiene is very important to prevent many communicable diseases
- Excessive Hand washing with soap resulting dry & cracked skin.
- Disinfection of hands is most essential in public places to prevent the spread of different communicable diseases like COVID-19.
- where water and soap is not available. Sanitizer is the best choice



HARMFUL EFFECTS OF CHEMICAL BASE HAND SANTIZER

- Several hand sanitizers are available in gel or liquid forms, which contain chemical antimicrobials like **Triclosan, Benzethonium chloride, Hydrogen per-oxide** etc.
- The long term use of the sanitizers containing chemical antimicrobial agents may pose the hazards like development of **resistance in microbes, adverse effect on human immune system.**
- Some **fragrances** like phthalates used in sanitizers are endocrine disruptors and may cause **hormone imbalance problems upon prolonged use.**



HERBAL HAND SANITIZERS AS SAFER ALTERNATIVES TO CHEMICAL SANITIZERS

- Safer alternative to chemical based hand sanitizers to provide good anti-microbial effects.
- Causing less irritation and dryness
- Skin friendly



Herbal Hand Sanitizer developed by IPFT

- IPFT has developed hand sanitizer with natural ingredients which make the sanitizer more effective and safe.
- Process being scaled up under UNIDO sponsored project



Mouth Wash

Definition

“Mouthwashes are concentrated, clear aqueous solution with a pleasant taste intended to clean and deodorize the mouth or buccal cavity”



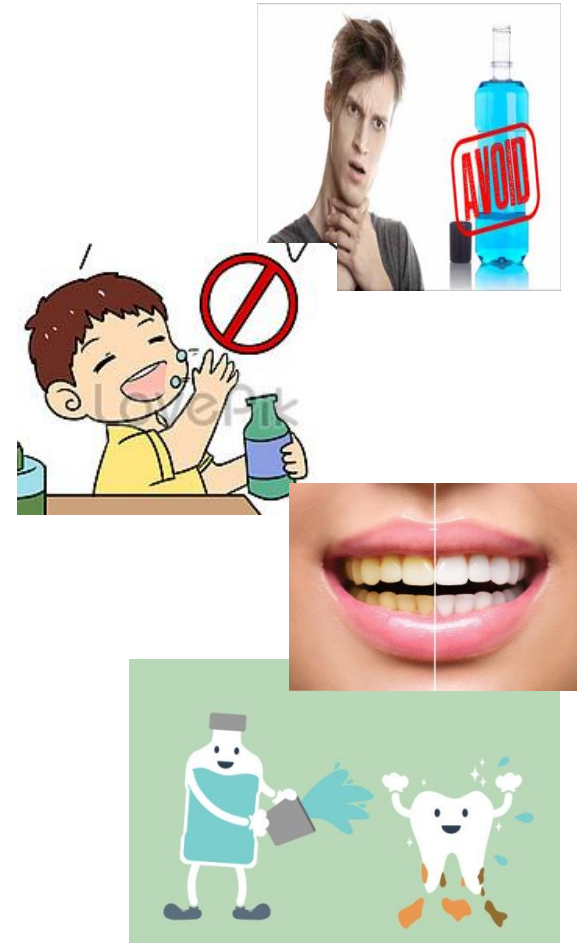
Characteristics of Mouth Wash

- Mouthwash is a liquid product used to rinse teeth, gums, and mouth.
- It contains antiseptic constituents to kill harmful microbes which occur in between teeth, gums and tongue.
- Brushing along with mouth wash is the good combination for oral hygiene.
- fighting bad breath and prevention of tooth decay.
- recommended to treat infection, reduce inflammation, relieve pain.



HARMFUL EFFECTS OF CHEMICAL MOUTHWASH

- Available mouthwashes contain up-to 26% alcohol which can cause oral cancer and other adverse effects.
- Risk of accidental ingestion in children.
- Cetylpyridinium chloride, chlorhexidine and hydrogen peroxide is the main constituent for immediate whitener, pain reliever of teeth and antiseptic effect.
- produce discoloration of teeth and may produce side effect, meanwhile they are costly.



HERBAL MOUTH WASH AS SAFER ALTERNATIVES TO CHEMICAL MOUTHWASE

- Herbal mouthwashes are in high demand , as people are more attracted towards the green products to reduce the load of chemicals
- Impart instant effect without any side effect.
- Herbal mouthwash contains a natural ingredients that contains desired anti-microbial and anti-inflammatory effect.
- Herbal mouthwash work without alcohol, artificial preservatives, flavor, or colors.
- Contain natural herbs that have natural cleansing and healing property to teeth and gums.



Herbal Mouth wash being developed by IPFT

- Contain herbal based active ingredient
- Safe and natural product based excipients
- Water based treatment



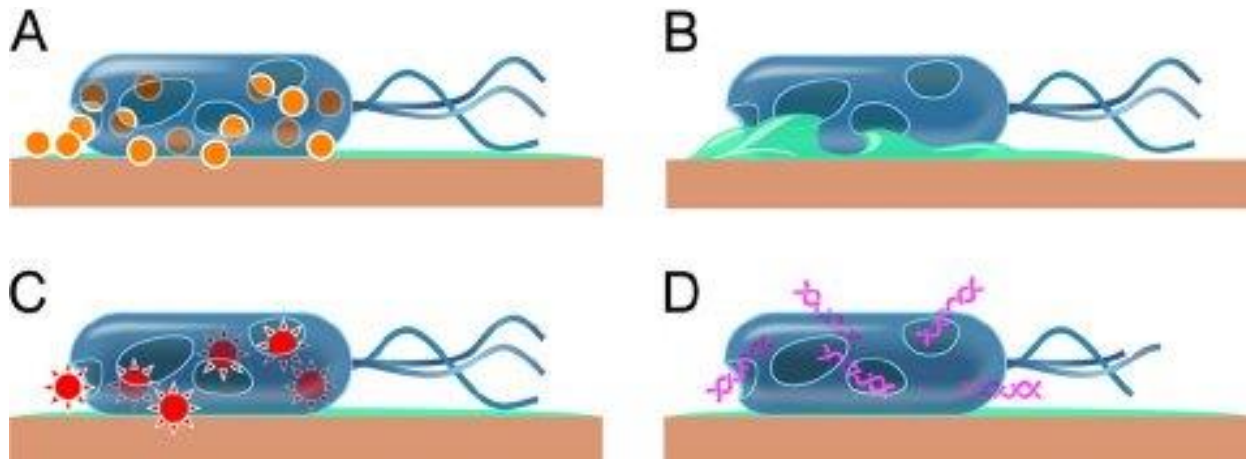
SURFACE DISINFECTANT SPRAY

Disinfectants are used on inanimate objects for the inactivation of disease-producing microorganisms.



Modes of action of Disinfectants

- membrane damage
- lyses and leakage of intracellular constituents.
- inhibition of enzymes
- Interaction with macromolecules



HARMFUL EFFECTS OF CHEMICAL BASED DISINFECTANTS

Frequent use of disinfecting sprays during the Covid pandemic has some possible health risks.

- Application of chlorine based disinfectants can lead to irritation of eyes and skin and potentially gastrointestinal effects such as nausea and vomiting.
- Inhalation of sodium hypochlorite can lead to irritation of mucous membranes to the nose, throat, respiratory tract, hormone disruption and adverse impacts on the immune system.

Some disinfectants contain quaternary ammonium compounds, which can trigger or cause asthma.



ADVANTAGES OF HERBAL DESINFECTANT SPRAYS DEVELOPED BY IPFT

- **Protects from the germs transferred from direct contact with an infected person or from an external source**
- **Manufactured with best quality standards**
- **Multi- purpose safe and herbal preparation can be used on all surfaces**



FLOOR DISINFECTANTS

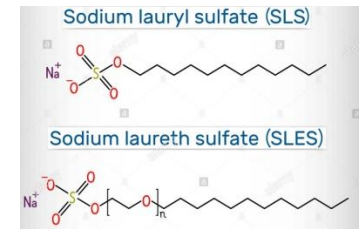
- Floor Disinfectant is a **liquid** that disinfects floor along with **cleaning**.
- Our homecare floor cleaners, are loaded with toxic chemicals.
- Most of these chemicals have extensively affects our health (babies and pets are more prone to their side-effects) and our ecosystem.



HEALTH HAZARDS BY FLOOR DISINFECTANT CONTAINING CHEMICALS

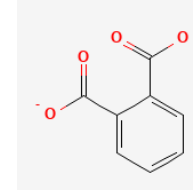
1. Sodium Lauryl Sulfate (SLS) and Sodium Laureth Sulfate (SLES)

- ✓ Damage eyes by direct contact
- ✓ Damage the skin by causing burns or lead to dry, itchy, flaky skin.



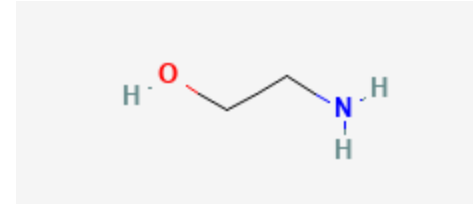
2. Phthalates for fragrance

- ✓ Endocrine disruptors
- ✓ Asthma
- ✓ Reproductive disorders
- ✓ Developmental disorders.



3. MEA (monoethanolamine), DEA (diethanolamine), TEA (triethanolamine)

- ✓ Hormone-disrupting chemicals
- ✓ Carcinogenic
- ✓ Skin, eye and respiratory irritants.

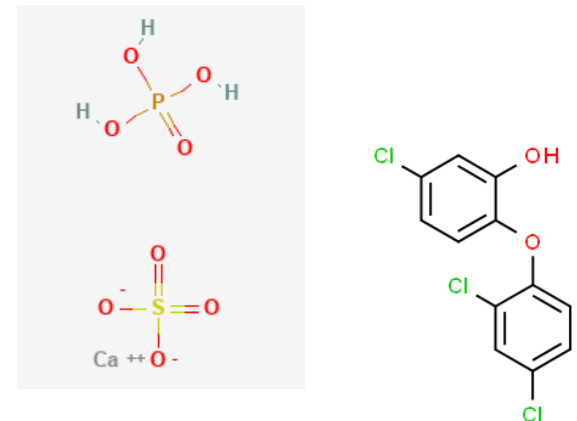


4. Sulphates and Phosphates

- ✓ Discomfort in the lungs
- ✓ Polluting water bodies and starving marine life oxygen.

5. Triclosan

- ✓ Causes severe allergies
- ✓ Endocrine imbalance.



ENVIRONMENT HAZARDS OF CHEMICAL BASED FLOOR DISINFECTANTS

The chemicals used in floor disinfectants not only pose health hazards, however, have an adverse impact on environment too.



- These chemicals **form harmful derivatives when drain into water bodies** and contaminate water as well as threaten aquatic creatures.

- Due to their non-biodegradable nature, they remain **persist in the environment** for longer period of time.



HERBAL FLOOR DISINFECTANT BEING DEVELOPED BY IPFT

- Made exclusively from **natural ingredients**
- **Non-toxic** and **biodegradable**
- **Cleans stains, kills germs** and also acts as an insect repellent.
- **zero side effects**



FRUITS & VEGETABLES DECONTAMINANT DEVELOPED BY IPFT

Fruits and vegetables decontaminants for removing off pesticides, germs & bacteria, dirt & dust, other chemicals, waxes and preservatives that are found in fruits and vegetables.



BENEFITS

- Remove pesticide residues and microbial load from the vegetables and fruits compared to that when washed with plain water.
- It is **safe** for its intended human use and is safe for washing of un-cut fruits and vegetables.
- After application, fruits and vegetables Can be **preserved** for Long Period of time.



How to use?

1. Prepare the solution of decontaminant
2. Soak the fruits/vegetables in the prepared solution for 5-10 minute.
3. Transfer the soaked fruits/vegetables into strainer.
4. Wash thoroughly under running water.



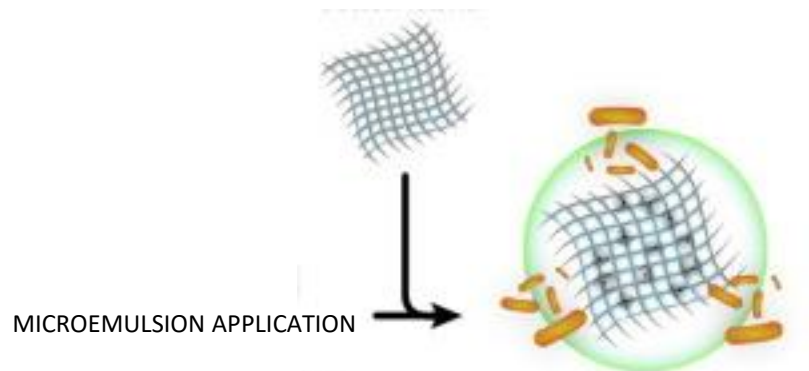
MICROEMULSION BASED ANTIMICROBIAL SPRAY FOR IMPREGNATED MEDICAL TEXTILES UNDER DEVELOPMENT BY IPFT

- Specially designed for impregnation of bandages, dressing materials, and other medical textiles etc
- Preventing cross infections by microorganism
- Reducing the formation of odor by inhibition of microbes metabolism
- Enhance Protecting performance



Application Methods textile of Antimicrobial microemulsion

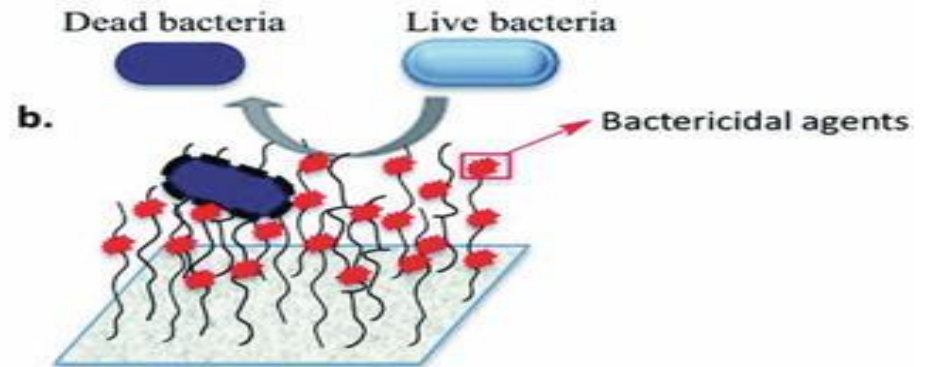
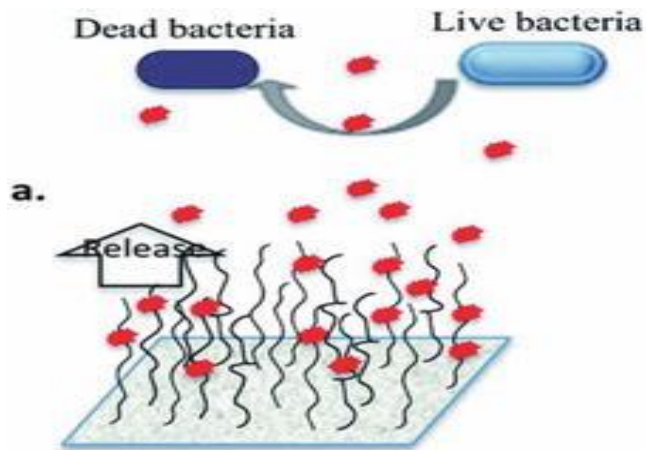
- The antimicrobial agents can be applied to the apparel and textile substrates by Spray.
- The substances can also be applied by directly adding into the fiber spinning or can be applied during the dyeing and finishing operations.



MODE OF ACTION

Ingredients present in the microemulsion are **chemically bound to fiber** surfaces and remain fixed to the fiber and **killing microbes by two ways:-**

- **Controlled release mechanism**
- **Contact action**



Conclusion

- Chemical based cleaning agents and disinfectanting agents are **aggressive against coronavirus and other microbes , but delicate for the planet.**
- **Herbal health care products** are eco-friendly and good for everyone's health!
- The main goal is to **ensure maximum safety** for all.

Let's do our best to keep eco-friendly Cleaning & Disinfecting agent in **sustainable and healthy way, for our greener future!**



THANK YOU

*Stay Safe
Stay Healthy!*