

Herbal Hand Sanitizer

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Hand sanitizers 🥰

NEED FOR HAND SANITIZERS

- Hand washing is the single most effective way to prevent the spread of Communicable diseases. There are a plethora of microorganisms around us that can cause illness due to unhygienic conditions particularly in children and elderly people
- Washing hands regularly particularly while travelling becomes difficult. In such cases use of hand sanitizers comes handy
- Literature indicates that majority of chronic hospital acquired opportunistic infections leads to sepsis resulting in mortality.
- Hand hygiene can be the first line of preventive measures that can prevent opportunistic infections.
- Therefore a single broad spectrum agent that can protect immunocompromised, elderly, children and hospital staff from opportunistic infectious agents (bacteria, fungi, virus) is highly desirable as a means to combatting rapid spread of Infection.

USP OF OUR PRODUCT

Our Hand sanitizer is made from herbal extracts that has proven anti-microbial property and is safe for use in people of all age groups

- The hand sanitizer is herbal and is broad spectrum (effective against bacteria fungi, virus).
- The herbal extracts have proven efficacy against bacteria and fungi as tested in the lab.
- These extracts have been tested against *Streptococcus spp*, *Staphylococcus aureus*, *E. coli*, *Bacillus subtilis*, *Pseudomonas spp*, *Candida albicans*, *Aspergillus niger* and *Cryptococcus neoformans*
- The combined effect of herbal extracts formulated in water base provides broad spectrum anti-microbial potential to the sanitizer.
- The product has long term shelf life and retains its efficacy.

Why?

- ✓ Kills many harmful germs
- ✓ Convenient way to clean hands when soap and water are not available

Side effects of market available sanitizer

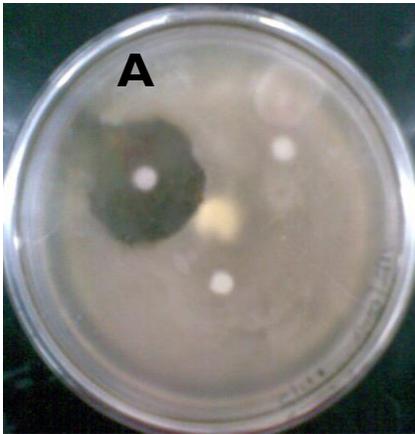
- ✓ Base composition-Synthetic (Chemical based)
- ✓ Expensive
- ✓ Side effects (Ocular irritation, vomiting, conjunctivitis, oral irritation, cough, and abdominal pain)
- ✓ Alcohol free hand sanitizer in the market contains Benzalkonium Chloride.
- ✓ Skin dryness.
- ✓ Release of byproducts causing environmental hazards.

Why herbal sanitizer ?

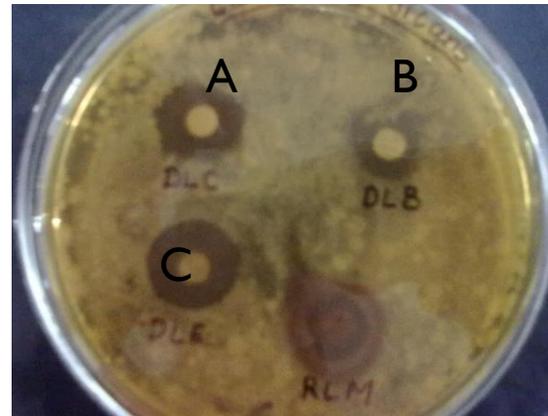
- ✓ Eco-friendly
- ✓ Biodegradable
- ✓ Non-toxic
- ✓ Single step bio-active compound extraction in different formulations
- ✓ Water based

TEST RESULTS

Plate assays conducted on isolated microorganisms from cars, house holds and AC vents. Clear zone indicated complete eradication



E. coli inhibition on plate against other sanitizers available in the market. A indicates our product

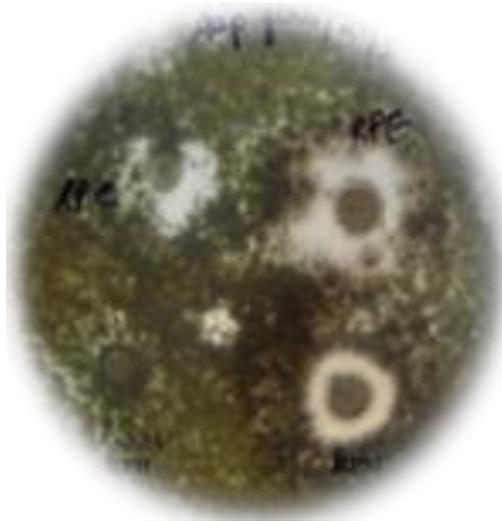


Staphylococcus inhibition seen on the plate. A, B, C indicate various extracts used in the final product

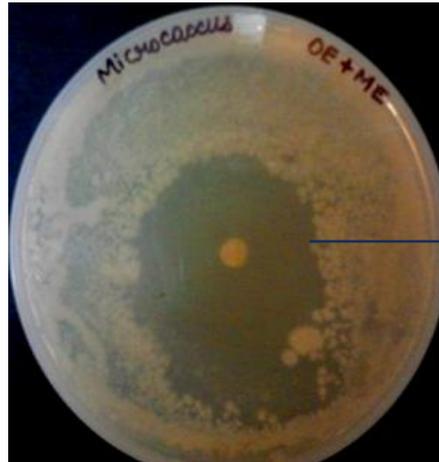


Inhibition of *Candida albicans* as indicated by zone of Inhibition

RESULTS CONTD



Inhibition of
Aspergillus fumigatus
using extracts



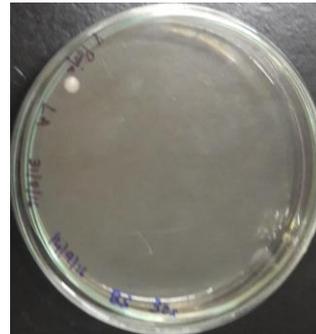
Effectiveness of the
product against
Micrococcus sp

Clear Zone
indicates
efficacy of
hand sanitizer

EN Testing results Results of the *Bacillus spp.* test plates after 30 seconds and 60 seconds exposure



Control



30sec



60sec

S. No	Plate	No of colonies
1.	control	12
2.	60s	1
3	30s	1

EN TESTING RESULTS RESULTS OF THE *CRYPTOCOCCUS NEOFORMANS* TEST PLATES AFTER 30 SECONDS AND 60 SECONDS EXPOSURE



Control Plate



30 second exposure

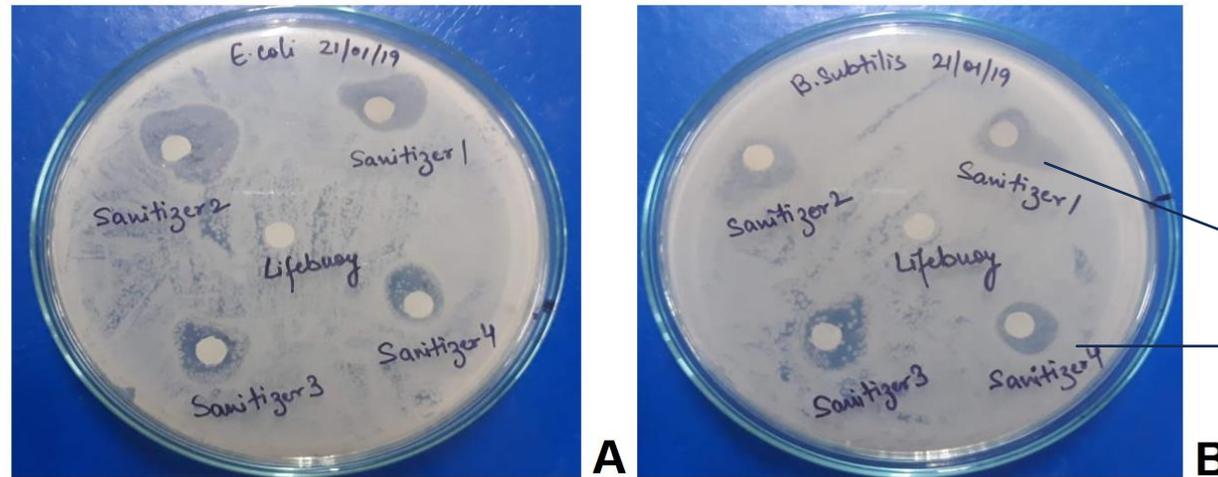


60 second exposure

S. No	Plate	No of colonies
1.	control	21
2.	30s	2
3	60s	0

COMPARISON OF AMITY HAND SANITIZER WITH COMMERCIALY AVAILABLE HAND SANITIZER

Efficacy testing of the formulation in comparison to the 70% ethanol based sanitizer sold in the market



The formulated sanitizers were tested on bacterial pathogens with respect to the sanitizers available in the market that are 70% ethanol based. Results in picture A and B show that the efficacy of all 4 extracts based formulations have better efficacy as compared to the market sold.

Clear Zone indicates improved efficacy of Amity Hand Sanitizer

1. Weigh X gram of base

2. Add Y ml of sterile distilled water with heating at regular interval

3. Once lumps of base are removed, again add Y ml of sterile distilled water while keeping the container on heat

4. Let the suspension become lukewarm

5. Add pinch of stabilizer to the suspension

6. Then add a mg/ml of bioactive ingredient and/or b μ l/ml of bioactive ingredient to this suspension

7. Finally add desirable herbal colour if required



Equipments

- ✓ Autoclave
- ✓ Laminar air flow–BSL 1
- ✓ Milli Q water
- ✓ Mixer
- ✓ Pipettes
- ✓ pH meter
- ✓ clean sanitized room



THANK YOU