

TNAU NANO SANITIZER

For Prolonged Hand Hygiene

Acts as Sanitizer cum
Moisturizer and
nurtures skin cells

Forms Bio glove for
additional protection



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Surge in the sanitizer Market

Hand Sanitizer is an antiseptic disinfectant and hand Sanitizer Market size is projected to cross **\$2 billion by 2025**, growing at a CAGR of 7.8% during the period 2020-2025. Public awareness campaigns by health authorities play a significant role in promoting the use of hand sanitizers. Increasing consumer awareness about hygiene coupled with government initiatives are driving the hand sanitizer market. (Hand Sanitizer Market– Forecast :2020-2025, by Industry ARC)



Domestic and Export potential:

As TNAU Nano sanitizer has sustained release formula combined with skin moisturizing efficiency, the product could be a stand-alone formulation in domestic and international markets. Due to the COVID -19 Pandemic, the domestic and export potential would remain very high in the coming years. The export potential is highly promising, as hand sanitizers are needed all over the Globe to ensure hand hygiene.

Advantages of the technology

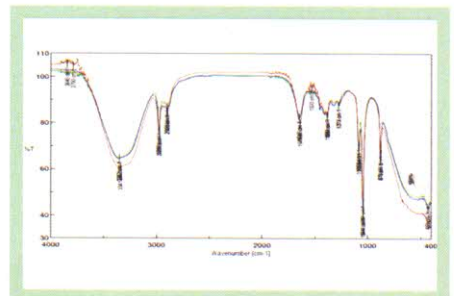
- a) As the alcohol is entrapped in voids created by Nano adsorbents, the TNAU Nano sanitizer does not show any irritation or skin dryness even under multiples applications.
- b) Besides sanitizer, the formulation acts as a skin moisturizer due to the presence of bio-polymer, that revitalizes the skin cells
- c) Once applied, a Nano film (Bio glove) is formed over the skin that acts as a protective layer for hands and disinfect the transient micro flora.

Unique Features

- TNAU Nano hand sanitizer consists of ICMR approved ingredients that are entrapped in **polymeric Nano systems** for the sustained release of disinfectants to ensure prolonged hand hygiene.
- The hand hygiene is ensured between **15 and 30 minutes** based on the post application activities of the individual
- All individuals including students, doctors, health care workers, Para medical staffs, hospitality and food service personnel, sanitary workers and general public can utilize this **Sustained-release hand sanitizer** for disinfecting their hands/skin surfaces.
- This formulation provides enhanced and prolonged anti-microbial effects against transient hand microbes such as **bacteria, fungi and viruses**.
- As alcohol and H_2O_2 are entrapped in Nano systems, there **wont be any skin dryness and irritations** even used frequently
- The polymeric Nano systems are derived from **natural sources** and **designated as GRAS** (Generally Recognized As Safe- 2005) **and approved by FDA** (503 A Bulk list for topical use)
- The **aromatic oils** in the sanitizer have unique properties like anti-microbial, anti-inflammatory, anti-allergic and also provide soothing and calming effects, a form of **Aroma therapy** in Indian Ayurveda.

Mode of action

The polymeric Nano systems under reaction with crosslinker, create voids and alcohol is adsorbed by electrostatic interactions in these voids resulting in sustained release upon application over hands.



Safety measures

- This TNAU Nano hand sanitizer is for external application only and not for internal consumption
- As the TNAU Nano hand sanitizer contains Alcohol, it should be kept away from flame, heat and children. The direct contact with eyes and ears should be avoided. All precautionary measures prescribed to any alcohol based sanitizer are also applicable to TNAU Nano sanitizer.

Safety
First

Regulatory requirements

Hand sanitizers are licensed under Drugs and Cosmetics Rules, 1945. The standards of such products are prescribed in the Second Schedule of Drugs and Cosmetics Act and rules made thereunder. The hand sanitizers are designated as SCHEDULE M DRUG and license has to be obtained from Drug Controller to manufacture and market the product. TNAU Nano sanitizer is also coming under SCHEDULE M drug and hence necessary licenses and all the statutory formalities stipulated by the Government/health ministry have to be followed by the manufacturers. TNAU Nano sanitizer technology will be provided only to the companies with valid license for sanitizer manufacturing and marketing.

TNAU Nano Sanitizer

An IPR protected invention from

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