

National Institute of Technology Silchar, Assam

Department of Mechanical Engineering

Research Area	Sanitizer
Project title	Low cost laboratory synthesis of sanitizer
Expected Outcome	Already developed.
Remarks	Distributed among the faculty, staff and office use of NIT Silchar.
URL	
Upload Document	Attached
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COVID-19 Research at National Institute of Technology Silchar

Low cost laboratory synthesis of sanitizer

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Introduction

To handle the pandemic situation due to Corona virus (Covid-19) all over the world is much more critical than any other disease. At the present stage there is no antiviral drug or vaccine for the novel disease. There lies one and only option that is prevention and social distancing among the peoples. However, to certain extent it's very difficult to stay away from human society and surrounding materials. As per guidelines of the World Health Organisation and Ministry of Health and Family Welfare, keeping safe each individual from Covid-19 is essential, various measure steps are necessary to take. Cleaning hand, covering mouth by mask, avoiding contact with eye and/or nose are the measure prevention methods.

Frequently washing of hand is highly essential as per recommendation of the MoHFW, in order to stay away from the SARS-CoV-2. Meanwhile, this a difficult task to clean hands with soap and water number of times while working at office. The best feasible solution comes out with the use of hand sanitizer. Country like India with nearly 1.37 billion peoples, fulfilling the sudden market demand of sanitizer become a challenging task for many industries. The sudden upsurge of the sanitizer, few company come up with fake or ineffective sanitizer to market as per the local media news. Keeping things in mind National Institute of technology Silchar, Assam, started procuring raw materials to synthesis quality sanitizers and making available the product to local peoples, office staffs, security guards and faculty members. The sanitizer is prepared from Iso-PropylAlcohol with concentration 99 % with standard volume percentage for the synthesis of sanitizer.

Material and methods

The raw materials Iso-PropylAlcohol 99 % pure, glycerine, distilled water, Aloe Vera Gel and flavour are collected from local venders. Mechanical stirrer, measuring flask, beaker and filter paper are used to prepare the concentration.

The required amount of raw materials are taken using measuring flask, the concentration of Iso-PropylAlcohol is maintained above 75 % as per standard for disinfecting virus.

Outcome

The developed sanitizer is low in cost as well as can be prepared easily. The sanitizer was distributed among the faculty and staff member and local people for their daily use. The equipment used and prepared sanitizer is shown in below figure.



Figure: Prepared Sanitizer



Figure: Equipment Used