

HP SAN

A Quick handrub Formulation for Hygiene application

Keeping our hands clean is an essential way to save our health and prevent the spread of illness, through bacteria, virus and other microorganisms that reside on the skin surface. 95 percent of people fail to wash their hands long enough to really kill and remove all of the germs after going to various infectious places such as dump yard, rest rooms, sick wards etc. This can be even more dangerous if the bacterial or viral organisms are part of pandemic such as COVID-19 that has come out very hard at humans in Jan 2020. This COVID-19 spreads through socializing with infected persons or when in contact with surfaces infected with coronavirus.

As a result, public demand for hand rub sanitizers has gone up rapidly and the market is unable to meet the same. Hence, WHO (World Health Organization) has released a short document to prepare quick hand rub locally by two sets of chemicals with minimum ingredients. The common ingredient however is an alcohol, which is the key component to kill 99% of the skin surface bacteria and was tested in advanced laboratories. HPGRDC developed an improved and cost-effective alcohol-based handrub sanitizer, HP SAN, (Fig 1a) keeping in interests the health of HPCL personnel and public to avoid the spread of COVID-19 and any other infections.



Fig 1(a)



1(b)

The improved formulation contains additionally a humectant, a buffering agent, a thickner etc. An image of in house synthesized HP SAN filled in dispensing bottle is shown in Fig 1a. A schematic of steps involved in handrub are shown in Fig 1b for maximum removal of germs from the skin surface.

Thus, an alcohol-based formulations for hygiene purpose to prevent the spread of any infectious organisms was developed by HPGRDC. These formulations were scaled up and distributed to various HPCL personnel (R&D, Marketing, LPG ROs etc), securities, at COMCO outlets and Bengaluru police.



Fig 2: Variants of HP SAN

The optimized formulation was improvised to have feel good factors through effective moisturization, color and fragrance for the skin well-being. To further enhance the user friendliness and to encourage the use of hand rub, the formulation was released in four variants (Fig 2). The details of the variants are provided in the following table.

Color	Fragrance
Blue	Lavender
Sunset Yellow	Sandal
Apple Green	Jasmine
Plain	Citrus