



PRINCIPAL  
Govt Degree College (W)  
Kannur, Kerala-574302, India  
College Code: 11938

Dept of Zoology  
W.E.F. 25-10-2021 to 06-11-2021

2021-2022

## CERTIFICATE COURSE ON PREPARATION OF HAND SANITIZERS FROM CHEAP AND LOCAL

### Production of Hand Sanitizers from cheap Local Materials.

#### ABSTRACT:

Hand sanitizer is a supplement or alternative to hand washing with soap and water. The production of hand sanitizers from locally grown medicinal plants namely wild spinach, turmeric, garlic, and camphor was achieved by obtaining the plants, grinding and performing ethanolic extraction for 72 hours on them. This ethanolic extraction is a combination of glycerine and absolute ethanol were used for the final preparation. Turmeric and garlic failed hand sanitizer's approval based on their colour and pungent smell, wild spinach and camphor were found to be good candidates for hand sanitizer production here and inclusion of such products here could increase hand hygiene compliance levels.

#### INTRODUCTION:

Hand sanitizers otherwise known as hand antiseptics is an alternative to hand washing with soap and water. It can be in different form such as gel foam and liquid solution (sprays). The base of all sanitizers is alcohol. The most used may be isopropyl alcohol.

ethanol - propanol or povidone - iodine - Alcohol based hand sanitizers are more effective in killing microorganisms.

An alcohol is any organic compound in which the hydroxyl functional group (OH) is bound to a saturated carbon atom. The primary alcohol usually forms the base of hand sanitizer which is about 60%.

Hand sanitizers effectiveness starts with its formula. The base of all hand sanitizers is alcohol, added to vitamins, aloe vera (or other softening ingredient), and glycerine. The essential germ killing ingredient in hand sanitizers is the alcohol and the minimum amount one needs for a sanitizer is 60%.

## MATERIALS AND METHOD

### MATERIALS

Beaker, filter, funnel, filter paper, foil paper, paper tape, packaging bottle, analytical weighing balance, lavender oil, glycerine, camphor, wild spinach, garlic, turmeric, ethanol, distilled water.

### METHOD

Camphor, wild spinach, garlic and turmeric were grounded into powder form. Camphor and wild spinach give dry fine particles, while garlic and turmeric was moisten form.

50g of each medicinal plants and camphor weighed using analytical weighing balance and powdered into four different beakers. 100 ml of ethanol was poured into each of the beakers and covered with foil paper, seal with paper tape, labelled and left for 24 hrs, 48 hrs and 72 hrs.

## MEDICINAL EXTRACT.

The content in the beakers was filtered into a new four different beakers by the use of filter paper and filter funnel. 100 ml of ethanol was then poured into these beakers and sealed with foil paper and left for another 72 hrs. This procedure was repeated twice and finally was collected. 10 ml of each extract was measured into four different beakers that had been labeled. 90 ml of ethanol was measured and poured into each of the beakers. To each of the beakers a lavender oil was added and 10 ml of glycerine was measured and 90 ml of ethanol was added and two drops of lavender oil.

## RESULT & DISCUSSION

Camphor and Turmeric

It was observed that garlic turns milky and gave pungent smell hence it can't be used to make hand sanitizers. Turmeric can't be used to make hand sanitizers because of its colour i.e. its colour reaction gives a reddish

yellow colour. hence it is not presentable as a good hand sanitizer. camphor, wild spinach and glycerine can be used to make hand sanitizers because it gives sweet smell but bleaching agent must be added to wild spinach solution to remove the colour of the solution.

### PACKAGING.

The packaging bottle were rinsed with water and then equilibrated i.e ethanol was used to rinsed the bottles to let the water drop out. The camphor hand sanitizers, glycerine hand sanitizers and wild spinach hand sanitizer were poured into the packaging bottles and ready for use.

### CONCLUSION.

In conclusion hand sanitizers was produced to solve the problems faced from the action of germs, bacterial and viral infections. It can quickly reduce the number of microbes on hand. The use of alcohol hand sanitizers enhance hand hygiene programs due to their ease and convenience of using in conjunction with plain or antimicrobial soaps and water thereby increasing hand hygiene compliance level.

List of students enrolled for certificate course on "preparation of hand sanitizers from cheap and local materials" b/w ef. 25-10-2021 to 26-11-2021.

Sl. No	Reg. No.	Name of the student	25/10	26/10	27/10	28/10	29/10	30/10	31/10	1/11	2/11	3/11	4/11	5/11	6/11
			0	0	0	0	0	0	0	0	0	0	0	0	0
1.	1908-19-445-001	Aheda Baig	P	P	P	P	P	P	P	P	P	P	P	P	P
2.	1908-19-445-002	Aflal	P	P	P	P	P	P	P	P	P	P	P	P	P
3.	1908-19-445-003	Afshreen Akther	P	P	P	P	P	P	P	P	P	P	P	P	P
4.	1908-19-445-017	Javeriya Rashid	P	P	P	P	P	P	P	P	P	P	P	P	P
5.	1908-19-445-025	M. Shalini	P	P	P	P	P	P	P	P	P	P	P	P	P
6.	1908-19-445-031	Muzath Fatima	P	P	P	P	P	P	P	P	P	P	P	P	P
7.	1908-19-445-033	Rohana Begum	P	P	P	P	P	P	P	P	P	P	P	P	P
8.	1908-19-445-038	Sana Begum	P	P	P	P	P	P	P	P	P	P	P	P	P
9.	1908-19-445-902	Afshar Banu	P	P	P	P	P	P	P	P	P	P	P	P	P
10.	1908-19-445-913	Saba Begum	P	P	P	P	P	P	P	P	P	P	P	P	P
11.	1908-20-445-001	Afreen Khannoo	P	P	P	P	P	P	P	P	P	P	P	P	P
12.	1908-20-445-005	Alma Sultana	P	P	P	P	P	P	P	P	P	P	P	P	P
13.	1908-20-445-011	Aynud fatima	P	P	P	P	P	P	P	P	P	P	P	P	P
14.	1908-20-445-014	Faiza Inam	P	P	P	P	P	P	P	P	P	P	P	P	P
15.	1908-20-445-021	L. Mounika	P	P	P	P	P	P	P	P	P	P	P	P	P
16.	1908-20-445-902	Ghensia Begum	P	P	P	P	P	P	P	P	P	P	P	P	P
17.	1908-20-445-905	Safiya Banu	P	P	P	P	P	P	P	P	P	P	P	P	P
18.	1908-20-445-906	Samreen Begum	P	P	P	P	P	P	P	P	P	P	P	P	P
19.	1908-21-445-003	Amena Afreen	P	P	P	P	P	P	P	P	P	P	P	P	P
20.	1908-21-445-027	Safoda Shazia	P	P	P	P	P	P	P	P	P	P	P	P	P
21.	1908-21-445-029	Sarvesha Begum	P	P	P	P	P	P	P	P	P	P	P	P	P
22.	1908-21-445-042	Yasmeen Anjum	P	P	P	P	P	P	P	P	P	P	P	P	P
23.	1908-21-445-043	Yasmeen Begum	P	P	P	P	P	P	P	P	P	P	P	P	P

Signature of the lecturer

Signature of the Principal  
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